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Great Northern Raises Newsprint Paper Price

Increase of $1 Per Ton on Orders for 1936 Delivery Disappoints Canadian Newsprint Manufacturers—Fear Action May Set Price for Industry for Forthcoming Year—Great Lake Sale Another Weak Factor—Production Costs Expected to be Nearly $3 Per Ton Higher Because Cost in Wood Operations Have Advanced

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 14, 1935—Newsprint executives here continue to be fairly optimistic over the prospects for a moderate advance in the price of newsprint for 1936 delivery. They profess to see indications that publishers are preparing for this development, and in support of this point out that United States publishers are in many cases increasing their advertising rates and that several leading newspapers in Southern California have recently announced upward revisions in subscription rates ranging between 10 and 15 cents a months.

One week feature in the situation continues to be connected with the sale of the Great Lakes Company, the fear being that this company's property will be bought by United States interests in the newspaper field, and that under such control a price will be set for newsprint which will set the price for all producers.

In this connection the *Financial Times* of Montreal says:

"Of five offers submitted for the property two are on behalf of United States publishing interests. There appears to be ample reason, in the light of the experience of the recent past, for the suspicion that chief concern of the publishers who are attempting to obtain control of Great Lakes is something other than an assured source of newsprint supplies. There still remains sufficient excess capacity in the newsprint field, both in Canada and the United States, to make any shortage of newsprint within the next few years a very improbable eventuality.

"It would be unfortunate, indeed, if, after three years of efforts to obtain co-operation among the producers with regard to marketing policies, those who have looked forward to some reasonable return on their investments should again be disappointed because of failure to co-operate for justifiably higher prices."

While the local situation as regards a prospective increase of $2.50 per ton in the price of newsprint has been hopeful, widespread disappointment is expressed here over the news from New York that the Great Northern Paper Company has announced that the price of its newsprint for delivery in 1936 would be increased $1 per ton to $41. Newsprint executives show no disposition to make public comment on the move, but there appears recognition that the action of the Great Northern Paper Company may set the price for the industry for next year. It is pointed out that production costs for 1936 are expected to be very nearly $3 per ton higher, largely because most companies have now used up their accumulated wood piles, and costs in wood operations have meanwhile advanced.

Canadian Newsprint in Australia

That a wrong interpretation has been put on the cabled news from Australia, which was thought to have decided to admit Canadian newsprint to that country free of duty, is now declared to be the case. Australia places a "primage duty" of four per cent on Canadian newsprint, and this has not been removed, it is now said. Advice received by the Department of Trade and Commerce at Ottawa is that the primage duty has been removed on printing paper "only when used for the production of books of a literary and educational nature, magazines and periodicals."

Book paper exports from Canada to Australia last year had a value of only $124,924, whereas the value of newsprint shipped was $3.8 millions. In the case of book paper, the primage duty is removed against all countries.

Pulp Mill at Prince Rupert

From Prince Rupert, B. C., it is announced that construction of the 250 ton pulp mill on the dry dock site there by Mutual Pulp and Paper Mills will be started without delay. Some contracts have already been let and construction men are expected to be on the ground within two weeks. It is also intimated that the intention is to have the $5,000,000 plant completed and ready for operation within eighteen months.

The feeling in the city is that establishment of the new pulp mill will be the beginning of a new era of prosperity for Prince Rupert.

Pusey & Jones Busy

WILMINGTON, Del., October 14, 1935—An upward turn in the tide of paper-making industry is seen in an announcement by the machinery division of the Pusey & Jones Company here that they have sufficient orders on hand to keep their plant in steady operation for a year to 15 months and that other orders are in sight to keep operations going indefinitely

Paper-making machinery is low on the list of industries that respond to renewed industrial activity.

Offer for Great Lakes Paper Co. May Be Accepted

Bid of John E. Gefaell and Lynn E. Aldrich Considered Most Promising Received of Five Offers for Assets—Would Make Provision for Raising Additional Working Capital by Sale of $1,000,000 of 5 Per Cent Ten Year Prior Lien Bonds

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 14, 1935—Unless the assets of Great Lakes Paper Company are sold by vote of bondholders at their adjourned meeting in Toronto this week, it is not improbable that the company will remain in receivership indefinitely. It has been in receivership since 1931. Great Lakes would then become another Price Bros., with settlement of the position of bondholders deferred. To avoid this possibility, which is considered undesirable, the bondholders committee will make a strong effort to have one of the five offers for the assets accepted by the meeting here this week. The quorum requisite for sale of the assets, half the $10,000,000 bonds, will be represented at the meeting.

The original meeting of September 22, when four offers for the assets were presented to bondholders, was adjourned partially because a quorum was lacking. At the meeting of October 4, $4,790,000 of bonds were represented and it is understood that there were enough proxies "in pocket" but not officially tabled, to make a quorum.

The most promising offer so far received, it is stated, is that of John E. Gefaell and Lynn E. Aldrich and it is considered important regarding this offer that provision is made for raising additional working capital by sale of $1,000,000 of five per cent ten-year prior lien bonds. The one share of Class C. preferred stock, which provided that John Gefaell could elect himself a director of the company, has been eliminated. Mr. Gefaell agrees to devote all his time to the interests of the company.

Powell River Doing Well

Powell River Company, operating a newsprint mill in the town of the same name in British Columbia, operated at better than rated capacity during last year and the same condition exists so far during the present year, so that it is expected that revenues for 1935 will equal those reported for the past year. Increasing cost of operation, as the result of higher wages and a rise in the price of wood, machinery and equipment, have made the economic problem of British Columbia newsprint mills more difficult than ever before, even though they enjoy the advantages of all-year tidewater transportation, easy access to markets and cheap water power. While the mills have been operating near capacity the price level is so low that profitable operations are difficult. They have been obliged to improve the quality of their product to hold the market and to effect economies wherever possible. Powell River, for example, is now completing a $500,000 program designed to meet these conditions.

May Operate Second Machine

Returning to Port Arthur from New York, Toronto and Detroit, Mayor Charles Cox, M. L. A., said that the outlook for the newsprint industry in Canada appeared to be encouraging. While he was in Toronto he met and discussed with G. T, Clarkson, receiver of the Thunder Bay paper mill, affairs respecting the plant in Port Arthur. Mr. Clarkson said that if present demands continued for newsprint, there was a possibility of re-operating the second paper making machine at the Thunder Bay mill. Mr. Clarkson, however, pointed to the heavy cost of preparing to bring the second machine into production. It would be in the neighborhood of $200,000, he said. Mayor Cox was assured, however, that the Thunder Bay mill would continue to operate at present capacity, and that considerable local wood would be cut and made available for the paper mills there.

Canadian Paperboard Affairs

No major developments have taken place in connection with the affairs of Canadian Paperboard, Ltd., whose mills have been leased with an option to purchase by the Gair Company, Canada, following the reorganization carried out last year. Under the terms of this lease the Gair Company will pay to Canadian Paperboard, Ltd., an annual sum which will take care of taxes, insurance and underlying charges. In addition Canadian Paperboard will have a share in the profits of the Gair Company, Canada, after various charges have been provided. As this change has only been effective a few months no reports are available as to the success of the plan. Canadian Paperboard went into receivership in the early part of 1930, largely because of the construction of a plant in Toronto which the company was unable to finance at that time. The plants at Frankfort and Montreal were closed down and production concentrated in Toronto and Montreal units. Various other economies were put into effect by the receiver but the results were not altogether satisfactory.

Notes and Jottings of the Trade

The Maxwell Paper Box Company, Ltd., just organized, has leased 5,000 square feet of floor space in the Slazenger Building at Queen street and Empire avenue, Toronto, and will manufacture various lines of paper boxes and containers.

Minas Basin Pulp and Paper Company, of Hantsport, N.S., manufactured about 8,700 tons of high grade mechanical pulp during 1934. This compared with the rated capacity of 12,000 tons annually and is regarded as a satisfactory showing in view of the unsettled state of the market for groundwood pulp. Most of the company's output is marketed with the Scott Tissue Mills in the United States. Early last year Minas Basin Pulp management undertook to diversify production. Another development last year was the construction of a power plant to meet the company's own requirements.

The death took place in Buffalo, a few days ago, of a pioneer in the paper box industry in the person of Robert Northey. As president of the Telfer Paper Box Company, of Toronto, Mr. Northey has had associated with him his four sons for some years all of whom are widely known in the paper box industry. The late Mr. Northey passed away suddenly while visiting in Buffalo following the celebration of their golden wedding anniversary by Mr. and Mrs. Northey.

The Canadian Paper Box Manufacturers' Association held its annual golf tournament at Galt, Ont., a few days ago. E. A. Smith won the low gross; low net F. Hodder; high gross, Fred Hunt; high net C. Pye; three sealed holes, low, Jack Hewitt; high, E. H. Wilkinson and high on any one hole, W. Shutt.

Johnson Box Co., Milwaukee, Leases Large Space

Earl F. Johnson, President, Announces Acquisition of 75,000 Square Feet In Industrial Plant, to Take Care of Rapid Growth of Business—Lease Gives Option to Buy Plant—A. B. Hansen Appointed Manager of Northern Paper Mills

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 14, 1935—Rapid growth of business has made it necessary for the Johnson Box Company, Milwaukee, Wis., to lease 75,000 square feet of floor space in an industrial plant at 714 East Keefe avenue, according to an announcement of Earl F. Johnson, president. The company was started two and a half years ago, and had occupied one floor of a building at 1570 South First street. An option has been taken on an additional 25,000 square feet of floor space, and the lease also gives the company an option to buy the plant at a later date.

This company has enjoyed a substantial gain in demand for corrugated cartons during the last year, and has prospects of continued good business, according to Mr. Johnson. No additional help will be added for the time being.

Remodelling of the new location is in progress, and the plant will be moved within a short time.

Northern Staff Changes

Two executive appointments have been announced by W. P. Wagner, president of the Northern Paper Mills, Green Bay, Wis. One is the election of A. B. Hansen, of Martinette, Wis., as general manager, to succeed Judson G. Rosebush, whose resignation was accepted about two weeks ago. Mr. Hansen was general manager of the Marinette and Menominee Paper Company. The other is the appointment of Henry W. Tuttrup, of Appleton, Wis., as treasurer and assistant to the president. Mr. Wagner had been serving as both president and treasurer. Mr. Tuttrup has been a member of the board of directors for the last six years. He formerly was president of the Citizens National Bank of Appleton, up to the time of its merger with the First National Bank of that city.

Rotogravure Paper Demand Increases

Rotogravure paper, manufactured by the Kimberly-Clark Corporation, Neenah, Wis., is showing an increasing demand. Sixty papers in forty-four cities now publish rotogravure sections, according to figures compiled for the first half of the current year. The advertising lineage is showing a steady increase, with the volume up 7.6 per cent for the first half of the year as compared with the first half of 1934. Local lineage jumped 13 per cent, and national 3.3 per cent. The leaders are the *Chicago Tribune* with 177,711 lines for the first six months, *New York Herald Tribune* with 151,968 lines, and *New York Times* with 140,292 lines.

Pulpwood Shipments By Water

Shipment of pulpwood to mills of the Fox River Valley by water in preference to rail appears to be gaining in popularity. The plan was tried out this season by the Kimberly-Clark Corporation, which supplied its mill at Kimberly, Wis., from shipments brought across Lake Superior from Canada on Great Lakes freighters. The wood was transferred to barges of the Fox River Navigation Company at DePere, Wis., for delivery up river. Shipping companies are making docking and barge arrangements now which will mean the delivery of at least fifty boatloads, or approximately 100,000 cords next season. It is understood that other mills are negotiating for this service. The volume of coal shipments was reduced this season, due to the abundance of water power, and if the same condition prevails next season, additional barge capacity will be available to move the pulp wood.

Water shipments are practically completed for the season, due to unfavorable weather conditions as the cold increases. The Consolidated Water Power and Paper Company completed its rail loading last week of 35,000 cords of spruce and balsam rafted across Lake Superior by the Newaygo Tug Lines, Inc. to the hoists at Ashland, Wis. A crew averaging 27 men has been kept busy since early in July reloading the wood on freight cars. Average rail shipments have been about 500 cords a day, consigned mostly to the Consolidated mills at Wisconsin Rapids and Biron, Wis.

News of the Industry

The board of trustees of the Institute of Paper Chemistry, Appleton, Wis., will meet in New York October 15. Dr. Henry M. Wriston, director of the Institute, and Westbrook Steele, executive secretary, will be among those attending from Appleton.

Burt Ashman, of Elgin, Ill., has begun his duties as administrative assistant at the Institute. He was graduated from Lawrence College at Appleton last year.

Several accidents, one fatal, have been reported during the last week. Walter Strassmann, 51 years old, employed at the Sterling Paper Company, Eau Claire, Wis., suffered a skull fracture when he fell down an elevator shaft at the mill. He died shortly after being taken to a hospital.

Howard B. Richmond, assistant manager of the Consolidated Water Power and Paper Company at Stevens Point, Wis., is confined to a hospital there with a fractured vertebrae of the neck. He was injured while returning from a fishing trip at Pickerel Lake, Wis., when his car skidded on ice and was ditched.

Lovett Bunn, Clarence Lande and Harold Heller were burned about the face, head and shoulders when a pipe carrying sulphuric acid burst at the Kimberly, Wis., mill of the Kimberly-Clark Corporation. They were taken to St. Elizabeth Hospital at Appleton, Wis. Mr. Heller suffered a first degree burn of the left eye, but it was expected the eye would be saved.

Finch, Pruyn & Co. In Safety Contest

GLENS FALLS, N. Y., October 14, 1935—Finch, Pruyn & Co. is among the many paper mills entered in the eleventh annual state-wide accident prevention campaign under the supervision of Associated Industries which was launched late in September. A total enrollment of 460 industrial firms in the state has been recorded for the contest with a total of 160,868 manual workers. The campaign is to terminate at the end of thirteen weeks when the winners with the best records in the various classifications will be awarded bronze trophies and merit certificates. The object of the present campaign is to excell the record low accident mark established in the 1934 contest when the entire group of 437 contestants concluded the drive with a record of 7.50 accidents per million hours worked, a reduction from 915 accidents in the 1933 campaign and 21.5 in the first drive more than a decade ago.

Paper Industry Continues Active In Chicago

Increasing Strength Experienced In Practically All Grades of Paper—Fine Paper Division Little Changed—Inquiries for Kraft Paper Fairly Numerous—Volume of Orders for Newsprint Increases—Paper Stock Section Listless

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 14, 1935—The Chicago paper industry continued to show the results of concentrated efforts to improve the morale of various paper markets and during the past weeks reports continued to give evidence of increasing strength for the entire market. Prices were comparatively firm and, in many instances, some broadening out of demand occurred as the industry followed the general business trend. Kraft papers were said to have experienced an increase in inquiries and volume placed with the price structure continuing satisfactory. Ground woods gave no evidence of giving up any of the recovery noted both in markets and in price range, while newsprint was also reported to be in slightly improved volume as Fall business moved to bolster advertising lineage. Meetings of the Inland and Illinois Press Associations, to be held next week, are expected to give some further light on the newsprint situation, at least from a local standpoint.

Fine papers changed little during the week, sulphite bonds showing a satisfactory response to recent adjustments. Bonds and ledgers were little changed with some attractive new lines and comprehensive merchandising helping to further demand. Books and covers felt the results of some improvement in the advertising and merchandising world. Waste papers were dull to weaker in a reputedly colorless market.

Container's Earnings Up

Container Corporation of America and subsidiaries reports consolidated net earnings for the third quarter of 1935, after interest, depreciation, reserve for year-end adjustments and federal income tax were $394,174 compared with $164,002 for the third quarter of 1934. Earnings for nine months of '35 were $826,319 compared with $762,861 in the similar period of 1934.

After bond interest and current preferred stock dividend requirements, the earnings for the third quarter were 57 cents on each share of Class A Common stock and 28 cents on each share of Class B Common stock compared with 22 cents for the A and 11 cents for the B in the third quarter of 1934. For the nine months, earnings are $1.17 for the A and 58 cents for the B compared with $1.07 for the A and 53 cents for the B in the nine months of 1934.

In commenting, Walter P. Paepcke, president, says:

"As of September 30, 1935, current assets totalled $5,196,362, including $1,048,376 in cash; and current liabilities were $1,614,906 including current maturities of funded debt and federal income tax reserve.

"Tonnage volume for the first nine months of 1935 was 22.4 per cent ahead of the similar period of a year ago, and dollar volume 8.6 per cent ahead.

"It is noticeable herefrom that volume has been very good. Prices are somewhat better than at the end of the first half. Thus far in October, volume and price have held up well and the immediate outlook is satisfactory."

Industry Needs Encouragement

R. E. Wantz, president of the Rockford Fibre Container Company, of Rockford, Ill., contributes an interesting article to the current issue of the *Illinois Journal of Commerce* on the subject of industrial improvement and further threats of taxation. The article is particularly applicable to Illinois industry and many paper and printing executives will welcome Mr. Wantz' proposal that "encouragement be given our present industries in order to increase employment and the manufacture of goods, to help these industries in maintaining their present position and to attract economically sound new industries." Mr. Wantz was specifically urging the Illinois Legislature, both in its proposed special session and with relation to further legislative procedure, to refrain from further taxing or impeding of Illinois industrial organizations.

Marquette Buys Large Structure

The Marquette Paper Company, for many years a dominant figure in the paper jobbing circles of Chicago, has recently announced the acquisition of the nine-story building at 517-525 South Wells street, formerly occupied by the Paper Mills Company. It is reported that $87,000 cash was used to effect the purchase of the property built in 1907 and leased for ninety-nine years to the Paper Mills Company. The latter organization occupied the structure until 1932 when the concern was liquidated. The building is of excellent construction and well located in relation to the printing and paper industry of Chicago. Full assessed value in the 1933 tax roll was in excess of $216,000 or almost three times the sale price.

According to L. J. Donahue, president of the Marquette Paper Company, the fine paper jobbing house will occupy the structure immediately after the first of the year and after some remodelling work is completed. Mr. Donahue stated that the Blunden-Lyon Company and the firm known as Copy Papers, Inc., both considered as subsidiaries of the Marquette Company, would also occupy considerable space in the new structure on Wells street. These two firms, however, will both retain their identity as in the past, both as to sales force and merchandising.

The move to the new location is based, says Mr. Donahue, on a desire to provide more adequate quarters for the rapidly growing business of all three companies and to provide better service for the clientele.

News of the Industry

Merle Sears, president of the Merle Sears Paper Box Company, Danville, has been elected a director of District 2 of the Illinois Chamber of Commerce, the elections having been held in Chicago on October 10. This will be the second consecutive term for Mr. Sears who, as a director, is responsible for the development of state chamber work in his particular sector of the State. Mr. Sears is a well known representative of the paper box industry and an active participant in association affairs.

The National Industrial Advertisers Association recently announced the winners in the annual exhibit of industrial advertising which was a feature of the recent annual session. Included in the 260 panels on display, 190 of them being advertisers, were a number of firms well known as suppliers to the paper trade. The Link-Belt Company, Chicago, won the award for the best campaign in the machinery classification, while the Timken Roller Bearing Company also had impressive exhibits.

Demand Continues Very Good In Boston

Various Grades of Fine Paper In Persistent Request—Wrapping Paper Division Shares General Improvement—Reports From Box Board Manufacturers Favorable—Paper Stock More Active Than Heretofore, With Exception of Lower Grades

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 14, 1935—Boston wholesale paper houses transacted a substantial volume of business last week, according to statements of executives. At the office of one firm, it was said that business was very good. The representative at the Boston office of a large manufacturing concern making fine paper noted that there was "a good week's business." None of those interviewed said that it was less than "pretty fair." A similar story emanated from the wrapping paper division.

Reports from offices of box board dealers were likewise favorable. Business was good, especially in material for making setup boxes. Orders for boards for shoe cartons were received in considerable volume. Prices held fairly firm.

The paper stock market was somewhat more active on almost all grades except mixed papers and old newspapers. With the mills well supplied with mixed papers, the price has been marked down two and a half cents again, to .22½ @ .25 from .25 @ .27½. Old newspapers, however, continued within the same range, .27½ @ .30. Bagging was firm, with manila rope, both foreign and domestic, selling well at two cents. Foreign manila rope was formerly quoted at 1.80 @ 1.90 and domestic at 1.50 @ 1.75. As intimated a week ago, there has been some speculation in bagging on the part of dealers, who expect higher prices later. Buyers hesitated to make purchases a few weeks ago, but the market remained unchanged in price. The market was sustained by the speculators, it is stated in the trade, but now buying is under way again. In new domestic rags, shirt cuttings were particularly firm. Roofing stock, under old domestic rags, was likewise especially strong. Foreign rags tended to be somewhat easier, although no change in price took place.

News of the Industry

The current exhibit of commercial art design, being shown in the new exhibit hall of the Storrs & Bement Company, from October 7 to November 2, has so far been very well attended by those associated with the graphic arts. Maurice A. Blackmur, promotional sales agent of Storrs & Bement Company, who has charge of the exhibit, gave a luncheon to the artists at the Boston Chamber of Commerce Tuesday. On seeing the exhibit afterwards, they were warm in their praise of both the manner in which the work was displayed and the exquisite style demonstrated by their fellow artists.

Mr. Blackmur has received a letter from one of the artists, Walt Harris, thanking him for the "generous gesture of showing artists' advertising and other drawings" He wrote that the "affair is a source of encouragement and mutual inspiration for a trade group that has been hit by conditions relatively hard. I have some knowledge of the grave problems met by the paper trade and especially the distributors. This fact makes me the more appreciative of an action that is quite altruistic, while it very naturally is aimed at business publicity." Mr. Harris adds that "while most advertising is difficult to definitely check up yet I am sure that your plan, so successfully begun, will lend a certain atmosphere of art appreciation that will reflect upon the firm's products."

John Carter & Co., Inc., is much interested in the Certificate Bond Individualized Letterhead contest being conducted by the Crocker-McElwain Company, Holyoke, Mass., which began September 9 and closes at midnight, November 20. The contest is to arrange fifteen individualized letterheads in the new portfolio of the company in their order of merit. The clubs in the International Printing House Craftsmen are voting on what should be the prize-winning arrangement of the fifteen letterheads. The final composite vote of all these clubs will determine the order of merit.

Prizes to be awarded December 15, 1935, include a first prize of $100 for the first arrangement received by the company identical with that of the judges, or nearest to it, second, $50; third, $25; fourth, $15, and fifth, $10. The objects of the contest are to bring about an even wider acceptance of the outstanding character and value at the price of Certificate Bond. The company suggests that in arranging the letterheads consideration be given on the basis of individuality of letterheads, suitability to business they represent, first impression effectiveness, identity or trademark value, completeness of information, general appearance, typography, attention value, wearing quality of design and color combination.

Carter, Rice & Co., Corp,, have just put in stock Strathopaque Bond and Envelopes, a sheet recently developed by the Strathmore Paper Company, West Springfield, Mass., which is of 52 per cent rag content. It has a high degree of opacity, strength and durability. The sheet is particularly suitable for price sheets, sales manuals, and four-page letters, where it is necessary to have printing on both sides of the sheet. Carter, Rice & Co. have also had their Strathmore lines up to date with the addition of a Strathmore new book paper, Olde Laid, and also the addition of the new colors in Strathmore Silver Flake and Aladdin Cover.

The fifth piece in the new series of mailings developed by the Oxford Paper Company will soon be distributed to New England printers by the Carter Rice Company. This mailing is in the form of a twelve-page booklet, entitled "So They Can't Say, What of It?" and is printed in two colors and silver metallic ink on Oxford Polar Superfine. Like the preceding pieces in this series, it has in it suggestions and ideas which will be found interesting by both printers and direct mail advertisers.

Tileston & Hollingsworth Company has sent to printers copies of articles by Harry L. Gage in the *Inland Printer* in regard to the 1935 Tileston & Hollingsworth Calendar. Mr. Gage has given his calendar criticism before organizations of printers in many of the large cities of the industry. He took the calendar to the Pacific Coast this summer for the first time in history. If he complies with the requests that have already been made, Mr. Gage and the Tileston & Hollingsworth Calendar will have appeared in more than thirty cities.

Robert M. Stone, vice-president of Stone & Forsyth Company, is away on a trip to Virginia, leaving October 5 for two weeks. He went by boat, landing at Norfolk.

D. J. Arpin, the new representative in New York and New England of the Patten Paper Company, Appleton, Wis., with headquarters at 270 Broadway, New York, was in town last week.

New York State TAPPI Discusses Bleaching

The Proposed New York State Section of the Technical Association of the Pulp and Paper Industry met at the Syracuse Hotel, Syracuse, N. Y., Saturday, October 12, 1935 at 6:30 p. m. Many of those present attended the Syracuse-Cornell football game in the afternoon. John Schuber of the St. Regis Paper Company presided as chairman.

R. G. Macdonald, Secretary of TAPPI was present and outlined a number of the present and planned projects of the Technical Association.

John D. Rue Speaks

The principal speaker was John D. Rue of the Hooker Electrochemical Company, Niagara Falls, N. Y. who presented a very interesting paper on "Some Recent Developments in Bleaching Chemical Wood Pulps." So great was the interest in this presentation that there followed more than an hour of uninterrupted discussion by the majority of those present, the speaker being literally bombarded with practical questions.

Dr. Rue pointed out that bleaching of chemical wood pulps has undergone, during the past eight years, a development which can be considered almost revolutionary. The improvements in processes have made it possible to bleach kraft pulps with the result that there is in progress a process shift in which the sulphite industry is losing ground to the sulphate industry. There is also in progress a regional shift in which the North Eastern mills are becoming less self-contained. Unbleached sulphite is likely to yield progressively to semi-bleached kraft from the South and to a lesser extent from the Pacific Coast.

The introduction of direct chlorination has made it possible to bleach kraft pulps to a relatively high white shade without appreciable loss in strength. For pulps of about manila shade or darker a single stage hypochlorite bleach is rapid, economical and productive of pulps of excellent strength. For pulps brighter than approximately a manila shade a chlorination stage preceding a hypochlorite bleach becomes increasingly essential to the production of color and to the maintenance of strength. For still brighter shades, i.e., those approximating bleached sulphite with sulphate pulp, should be specially digested and the bleaching process must include more than two simple stages.

Kraft pulp contains a dye which resists tenaciously the whitening action of the bleaching processes. This dye is more readily soluble in hot caustic than in neutral or acid media. It is probable therefore that one of the several stages will have to consist of a hot caustic extraction probably inserted between the chlorination and hypochlorite treatments.

The new bleaching processes have led to the need for and development of new materials of construction. A chlorinated rubber is finding useful application as a liner to bleaching tanks.

The complete text of Dr. Rue's paper will be published soon in the PAPER TRADE JOURNAL.

The next meeting of the New York State TAPPI members will be at Rochester, N. Y. on December 7. Details may be obtained from John Schuber, St. Regis Paper Company, Deferiet, N. Y.

Those Who Were Present

Those present were: J. D. Dickson Jr., R. T. Vanderbilt Co., E. Norwalk, Conn.; A. B. Caldwell, Cranford, N. J.; Vernon Woodside, Dexter Sulphite Pulp and Paper Company, Dexter, N. Y.; G. E. Osterhedt, Krebs Pigment Company, Newark, N. J.; A. B. Julin, Dexter Sulphite Pulp and Paper Company, Dexter, N. Y.; Carl Apelgren, St. Regis Paper Company, Defriet, N. Y.; W. B. Morehouse, Lawless Brothers Paper Company, E. Rochester, N. Y.; P. D. Switzer, Heller & Merz, New York, N. Y.; E. W. Gutliph, Bloomer Brothers Company, Newark, N. Y.; D. B. Williams, Williams Apparatus Company, Watertown, N. Y.; H. D. Cook, Sweet Brothers Paper Manufacturing Company, Phoenix, N. Y.; N. E. Weil, Solvay Process Company, Syracuse, N. Y.; W. O. Hisey, N. Y. S. College of Forestry, Syracuse, N. Y.; G. P. Prather, Dilts Machine Company, Fulton, N. Y.; K. D. Gallinger, St. Regis Paper Company, Watertown, N. Y.; F. C. Goodwill, St. Regis Paper Company, Black River; R. J. Murtaugh, St. Regis Paper Company, Deferiet, N. Y.; R. L. Watts, same company; Herbert Philipp, Solvay Process Company, Syracuse, N. Y.; F. M. Williams, Williams Apparatus Company, Watertown, N. Y.; R. F. Huntley, Sealright Company, Fulton, N. Y.; John Schuber, St. Regis Paper Company, Deferiet, N. Y.; R. G. Macdonald, secretary of TAPPI, New York, N. Y.; J. D. Rue, Hooker Electrochemical Company, Niagara Falls, N. Y.; C. E. Libby, N. Y. S. College of Forestry, Syracuse, N. Y.; E. P. McGinn, St. Regis Paper Company, Deferiet, N. Y.; Mr. and Mrs. Louis Korte, Dexter, N. Y.; Mr. and Mrs. F. M. Woodside, International Paper Company, Niagara Falls, N. Y.; James Brennan, Dexter Sulphite Pulp and Paper Company, Dexter, N. Y.; S. J. Young, National Paper Products Company, Carthage, N. Y.; Mr. and Mrs. F. Casciani, Electro Bleaching Gas Company, Niagara Falls, N. Y.; J. H. Rich, Foster Paper Company, Utica, N. Y.; D. D. Page, N. Y. S. College of Forestry, Syracuse, N. Y.; Fred Schorken, St. Regis Paper Company, Norfolk, N. Y.; M. J. Maguire, Paper Makers Chemical Company, Lockport, N. Y.; J. E. A. Warner, St. Regis Paper Company, Deferiet, N. Y.; C. H. Plantz, same company; W. J. O'Brien, O'Brien Steam Specialty Company, Syracuse, N. Y.; F. R. Hyatt, Johns-Manville, Oswego, N. Y.

U. S., China Trade In Old Newspapers Threatened

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1935—Exports of old and over-issue newspapers from the United States to China may be severely curtailed if a bill under consideration by the Canton Government to forbid such imports into South China becomes effective, according to a report from the American Consul-General, Hong Kong, made public by the Commerce Department.

The extent of the trade in old and over-issue newspapers is revealed by the fact that in the city of Canton alone over $1,000,000 worth of such papers was imported during 1934. The great bulk of these imports originate in the United States, the report shows.

The newspapers are used in China chiefly for wrapping purposes by the small merchants and retailers. Native paper manufacturers whose business has been adversely affected as a result of the increasing importation of foreign newspapers succeeded last year in having the Government prohibit the use of this paper for wrapping fresh foodstuffs, it was stated.

The local paper manufacturing industry maintains that the prohibition against imports of old and over-issue newspapers will prove an important aid in stimulating domestic paper production.

Lake States TAPPI Discusses Chemical Recovery at Appleton

The Lake States Section of the Technical Association of the Pulp and Paper Industry convened Tuesday, October 8, 1935, at 6:00 P.M. at the Conway Hotel with an attendance of 86 members and guests.

The first speaker, P. S. Billington of the Forest Products Laboratory at Madison, presented a paper entitled "The Recovery of Chemical from Soda Base Sulphite Pulping Liquor." (This was published in the September 12, 1935 issue of the PAPER TRADE JOURNAL.) A method was described for converting sodium sulphide present in the ash obtained from the burning of waste soda base sulphite pulping liquor for utilization in preparing cooking liquor as is done in the kraft and soda processes. The paper was followed by an interesting discussion of the possible advantages and relative cost of this process as compared to the normal process for calcium base liquor.

M. J. Shoemaker, representing the C. F. Burgess Laboratories at Madison, delivered an interesting paper on "The Catalytic Removal of Iron from Water." The Burgess Laboratories have prepared a material which performs this removal very effectively, this material being known as "BIRM." Equipment for the use of "BIRM" was described, and the advantages of its application were discussed. No replacement materials (or chemicals) are required since "BIRM" is regenerated simply by back-washing with practically no loss of material. Equipment to handle a million gallons of water a day may be installed at a cost of from $6,000 to $8,000 while a normal operating cost is approximately at quarter cent per thousand gallons. A water carrying three parts per million of iron may be reduced to an iron content of five hundredths parts per million with such an installation. A discussion of this paper brought out several interesting things regarding the possible application of the material to paper mill water.

Those Who Attended

Those present were: G. H. Chidester, Forest Products Laboratory, Madison, Wis.; C. E. Curren, same; H. W. Morgan, Institute of Paper Chemistry, Appleton; Kemper Slidell, C. F. Burgess Laboratories, Madison; W. H. Walateck, Thilmany Pulp and Paper Company, Kaukauna, Wis.; E. J. Vickman, Hoberg Paper and Fibre Company, Green Bay; I. R. Valentine, Jr., Fox River Paper Company, Menasha; W. C. Christensen, Hoberg Paper and Fibre Company; E. G. Goodell, Stevens Point Pulp and Paper Company, Stevens Point, Wis.; F. G. Wheeler, Kimberly Clark Corporation, Appleton; Allen Abrams, Marathon Paper Mills Company, Rothschild, Wis.; F. R. Lillie, Crane Company, Chicago, Ill.; F. G. Sherman, E. F. Houghton & Co., Appleton; Sigge Ekman, Rhinelander Paper Company, Rhinelander, Wis.; Harold Woehler, Fox River Paper Company; A. T. Gardner, Combined Locks Paper Company, Combined Locks, Wis.; J. R. Fanselow, Kimberly-Clark Corporation, Neenah; Earl Williams, Neenah Paper Company, Neenah; S. E. Strothman, Northwest Paper Company, Cloquet, Minn.; G. J. Van Liew, Wadhams Oil Company, Wausau, Wis.; E. O. Hemstreet, C. T. Engman, Carborundum Company, Niagara Falls, N. Y.; R. L. Shaw, W. A. Jones Foundry and Machine Company, Milwaukee, Wis.; P. S. Billington, Forest Products Laboratory; M. J. Shoemaker, C. F. Burgess Laboratories, Madison; C. Murray, Oshkosh, Wis.; T. H. Ireland, Crane Company, Chicago; G. L. Cavaness, Wm. Powell Company, Cincinnati, Ohio; G. J. Ritter, Forest Products Laboratory; Paul Grady, Kimberly Clark Corporation, Neenah; D. B. Wicker, Thilmany Pulp and Paper Co., Kaukauna; Carl Moe, Stevens Point Pulp and Paper Company; C. L. Wagner, Marathon Paper Mills Company, Rothschild; G. A. Wheeler, Kimberly-Clark Corporation, Appleton, Wis.; G. J. Brabender, Marathon Paper Mills Company, Rothschild; E. B. Morse, Fannon Trading Company, Appleton; W. S. Holzer, Rhinelander Paper Company, Rhinelander; Lloyd Lang, Kimberly Clark Corporation, Neenah; H. S. Johnston, Fox River Paper Company, Appleton; P. A. Paulson, Appleton; H. F. Lewis, Institute of Paper Chemistry; M. V. Molsberry, General Electric Company, Milwaukee; C. H. Nystrom, Northern Paper Mills, Green Bay; E. H. Voigtman, Kimberly Clark Corporation, Neenah; Philip Nolan, Institute of Paper Chemistry; W. F. Swan, Limestone Products Company, Menominee, Mich.; J. A. Van den Akker, Institute of Paper Chemistry; P. E. Jones, Patton Paper Company, Appleton, Wis.; P. J. Abel, Stickle Steam Specialty Company, Indianapolis, Ind.; Paul Boronow, Valley Iron Works, Appleton; J. H. Graff, Institute of Paper Chemistry; R. V. Knapp, Bailey Meter Company, Milwaukee; G. W. Forcey, Marathon Paper Mills Company, Rothschild; M. A. Youtz, Northern Paper Mills, Green Bay; S. I. Kukolich, Neenah Paper Company, Neenah; A. Phillips, Consolidated Water Power and Paper Company, Appleton; S. I. Aronovsky, Institute of Paper Chemistry; R. L. Youngson, Marathon Paper Mills Company, Menasha; K. R. McDougal, Institute of Paper Chemistry, Appleton; J. E. Spalding, Institute of Paper Chemistry; A. K. Smith, same; Charles Johnson, same; M. A. Buchanan, same; Reinhold Vogt, Consolidated Water Power and Paper Company, Wisconsin Rapids; J. C. Tongren, W. D. Harrison, Institute of Paper Chemistry; J. E. Watson, Wisconsin Wire Works, Appleton; T. R. Probst, Willmer Wink, F. S. Hanson, Robert Elias, T. A. Howells, A. W. Neubauer, N. A. Kelson, R. J. Lynn, A. M. Glover, J. C. Barthel, Louis Taylor, G. L. Clarke, Linton Simerl, Gerald Johnson, August Erspamer, A. M. Heald, Raymond Baker, L. B. Penhallon, all of Institute of Paper Chemistry.

Revised Practice For Photographic Paper

The standing committee in charge of Simplified Practice Recommendation R98-29, Photographic Paper, has submitted a revision of the recommendation, and the Division of Simplified Practice of the National Bureau of Standards has mailed copies to all interests for consideration and approval. The original recommendation, which became effective March 15, 1929, and which limited the stock sizes and varieties of photographic paper, was approved at a general conference of the industry held in 1928.

The current revision covers the elimination of one size and the addition of five sizes to the present recommendation. The revised schedule, when adopted by those at interest, will remain in effect until it is again revised by the Standing Committee of the industry.

Copies of the proposed revision, in mimeographed form, may be obtained from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

Superintendents Honor E. H. Gilman

KALAMAZOO, Mich., October 12, 1935—The first meeting for the 1935-36 season of the Michigan Division of the American Pulp and Paper Mill Superintendents' Association was held at the Park-American Hotel at 6:30 P. M. The afternoon had been taken up with a golf tournament at Maple Hills in which practically the whole delegation participated. Music during the dinner was furnished by Chas. Fischer's Orchestra, a medley of Scotch songs rendered by Miss Barbara Fischer, and a group of juveniles from the Lewis Dancing School comprised the entertainment features.

O. W. Callighan Presides

Following the dinner with O. W. Callighan presiding as chairman, the announcement by the nominating committee for the officers for the ensuing year was read. Election of the following officers followed: Otto Fischer of the Bryant Paper Company was elected chairman, with A. L. Sherwood and Don Stacy, vice-chairmen, and Norman J. Cowie, secretary. The high spot of the meeting came with the presentation of a life membership in the association to E. H. ("Dad") Gilman by M. J. Redmond. Mr. Gilman responded in a few well chosen words, after which M. J. Redmond gave a history of Mr. Gilman's activities in the paper industry. He has spent 58 years continuously in the business. George Ferguson paid Mr. Gilman a glowing tribute, as did also John Cornell, associate editor of *The Paper Mill*, who presented him with a life subscription to his publication.

Roy Zellers, third vice-president of the National Association, gave the members a short pep talk urging more support and suggesting more discussions of the problems encountered in manufacturing operations. Wm. B. Clement followed with a brief talk, using the association's slogan "Share your knowledge" as his subject, and deeply touched the members in his tribute to M. J. Redmond and E. H. Gilman.

A telegram from Chas. Champion, national president, sent from Norwich, Conn., was read in which he wished the Michigan Division a successful meeting.

Relation Between Paper Mill and Printer

The speaker for the evening was Ralph Bunto of the Bunto Printing Company, Kalamazoo. His talk was on the relation between the paper mill and the printer and brought out many interesting facts towards the solving of trouble encountered when paper being used on certain jobs goes wrong. One point in his address was the necessity of jobbers' salesmen having a more technical knowledge of the different grades of paper they sell and giving the mill more detailed information as to what sort of a job a particular order of paper is to be used for.

The open forum for questions followed and was made outstanding in some statements made by C. F. Sisson of the Mac-Sim-Bar Paper Company in which he corroborated the speaker's reference to salesmen furnishing the mill with more information on big orders for printing jobs.

Several short talks in reference to the national convention for 1936 coming to Michigan were given and Mr. Eminger advised the incoming chairman that he was expected to be present at the meeting of the executive board in Buffalo on October 27 at which time the meeting place for the 1936 convention will be voted on.

Results of the Golf Tournament

The result of the golf tournament was then announced by Mr. Bachelder of the Paper Makers Chemical Corporation which firm furnished the prizes. The awards were as follows: Best score, Clem Sisson; blind bogey, H. Lindorf and Fred Miller tied; low putts, A. L. Sherwood and H. C. Pearson tied; low strokes in traps, Clem Sisson and Art Wollam tied; most strokes in traps, Jack Carrigan; most three's, Roy Zellers; out of bounds, Jack Carrigan and Art Cole; pars, Harold Annis, Art Cole, Jake Boodt, F. Miller, Art Woollam, Clem Sisson, H. C. Pearson, Roy Zellers, and Jack Carrigan; low strokes in rough, Harry Bradford; most strokes in rough, Harold Annis and Fred Miller; high single hole, Art Cole and Fred Miller; high gross, Art Cole.

Among Those Present

Those present were H. F. Hellér, Paper Makers Chemical Corporation, Kalamazoo; C. L. Bachelder, Paper Makers Chemical Corporation, Kalamazoo; E. M. Cowling, Hawthorne Paper Company, Kalamazoo; George Docherty, Holyoke, Mass.; Eugene Cole, Bagley-Sewall Company, Watertown, N. Y.; George Engert, Dilts Machine Company, Fulton, N. Y.; Jake Parent, Holyoke Wire Cloth Company, Holyoke, Mass.; Jake Boodt, Bryant Paper Company; Bert Smith, Kalamazoo; A. C. Dreshfield, Paper Makers Chemical Corporation; Otto Fischer, Bryant Paper Company; James Foxgrover, Paper Makers Chemical Corporation; W. B. Clement, Bryant Paper Company; T. H. Delano, Willmette, Ill.; William Dalrymple, Lee Paper Company, Vicksburg; M. J. Redmond, Kalamazoo Paper Company; R. B. Stewart, Kalamazoo Vegetable Parchment Company; Arthur Woollam, Kalamazoo; Roy Holden, Stowe-Woodward Company, Upper Newton Falls, Mass.; H. E. Stafford, Hawthorne Paper Company; R. L. Zellers, French Paper Company, Niles; H. L. Garvens, Chromium Corporation, Chicago; Oscar Wettlaufer, Chicago; H. E. Stratton, PAPER TRADE JOURNAL; Harry Bradford, Rex Paper Company; Arnold Weller, Kalamazoo; A. G. Roesnes, Continental Diamond Fiber Company, Chicago; Glen V. Cathy, B. F. Goodrich Company, Akron, Ohio; A. L. Sherwood, Sutherland Paper Company; Ralph Bunto, Bunto Printing Company, Kalamazoo; Arthur M. Cole, Rex Paper Company; Robert L. Eminger, National Secretary of the Superintendents' Association; John Cornell, *The Paper Mill*, New York City; F. G. Crane, Paper Makers Chemical Corporation; Jos. E. Loughead, Kalamazoo; George Hendrick, Bryant Paper Company; Wm. F. Costello, Jos E. Loughead Company, Kalamazoo; Chas. Kennedy, Otsego, Mich.; Henry Burnitt, Kalamazoo; Carl C. Schneider, Hawthorne Paper Company; Norman J. Cowie, Hawthorne Paper Company; Heine Nindorf, Rex Paper Company; J. F. Carrigan, Kalamazoo; Harry C. Pearson, Pioneer Paper Stock Company; Irving Sisson, Stearns Stafford Company, Lawton, Mich.; C. F. Sisson, Mac-Sim-Bar Paper Company, Otsego, Mich.; E. H. Gilman, Watervliet Paper Company; George Ferguson, Watervliet Paper Company; and O. W. Callighan, Edgar Brothers Company, New York City.

Beckett Paper Co. Opens New York Office

The Beckett Paper Company, of Hamilton, Ohio, has recently opened a New York sales office at 300 Madison Avenue. O. P. Summerville is in charge of the office.

Obituary

George W. Gilkey

George W. Gilkey, president and general manager of the Michigan Paper Company at Plainwell, Mich., died in the Butterworth Hospital, Grand Rapids, Mich., on Sunday, October 6, 1935, from injuries received when his car was involved in a wreck at Howard City, Mich., on October 3.

Mr. Gilkey was born in Plainwell, Mich., in 1879, his family being among the pioneers of that village. He attended the Plainwell High School and was captain of its first football team in 1896 and also of the 1897 and 1898 teams. Mr. Gilkey was a graduate of the University of Michigan and was a member of the Delta Tau Delta fraternity, a member of the Masonic order, being a Past Grand Master of that organization

He was a director of the Plainwell Citizens Bank and for a number of years was president of that institution. His connection with the Michigan Paper Company covered a period of 32 years, starting as a clerk, serving later as assistant secretary, secretary, manager, and from 1929, president of the company.

He was married in 1908 to Miss Camille Rorabeck, who, with a daughter, Ann, a freshman at Gulf Park College, Gulfport, Mississippi, and a son John, sophomore at Antioch College, Yellow Springs, Ohio, survive him.

Mr. Gilkey was an outstanding personage in the paper industry, a man of sterling character, with a most pleasing personality. He always took an active interest in all matters pertaining to the paper business, as well as in the civic, business, and social life of his community. All business places in Plainwell were closed and the machines in the Michigan Paper Company were stopped during the funeral services which were held at the Gilkey home, the Rev. E. L. Sutcliffe, pastor of the First M. E. Church, officiating. Active pall bearers were George H. Gerpheide, Hawthorne Paper Company; William Lawrence, Paper Makers Chemical Corporation; Dwight R. Curtenius, Allied Paper Company; W. T. Schmitt, Bryant Paper Company; Ray W. Harrington, Kalamazoo; Guy B. Woodruff, Kalamazoo; George Ferguson, Watervliet Paper Company; and C. Guy Foster, Lee Paper Company.

Among those attending the funeral from far points were Charles W. Knode, New York; E. A. Petrequin, Cleveland; George Prefinter, Cleveland; I. M. Meyers, Chicago; Noble Gillette, Chicago; and many others prominent in the industry.

E. M. Lyon

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 7, 1935—E. M. Lyon, 81 years old, a former director of the Thilmany Pulp and Paper Company, Kaukauna, Wis., died September 29 at his home in Redlands, Cal. He had been a member of the board for about 25 years, and resigned three years ago because of ill health. Mr. Lyon formerly was active in the timber business in Michigan, and also was head of I. L. Lyon and Son, a citrus packing concern of California.

William L. Wagner

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 7, 1935—Accidental death of an unusual nature took the life October 4 of William L. Wagner, 20 years old, grandson of W. P. Wagner, president of the Northern Paper Mills, Green Bay, Wis. He was employed in the laboratories of the Northern mills, and was found dead there by Gordon Besaw, sulphite department foreman, who heard water running after the staff had left for the day and went to investigate. On the bench beside which Wagner collapsed was a beaker partly filled with a highly poisonous chemical used in paper tests. He was completing a test when the remainder of the force left at 5 o'clock in the afternoon, and is believed to have died about an hour later.

Indianapolis Demand Expanding

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 14, 1935—Business in the paper trade seems to be expanding gradually in this territory. The undertone is reported strong in most lines with prices being held on an even keel and credit conditions improving. Most paper users are contenting themselves with buying only what they have to have for almost immediate consumption. They are yet of the opinion that prices will break, but there is nothing apparent now to give much rise to such a surmise. There has been a little price chiseling, but this for the most part has been done by firms out of the state who are desirous of moving certain stocks quickly.

Fine paper jobbers say there is a continued demand from a wide line of customers. Printers are increasing their orders as a larger volume of direct by mail business is placed. The volume of this business will be considerably larger than it was last year. One school book publisher and general printing plant has been working two and three shifts for several weeks and the volume of fine paper consumed has been enormous. Books and covers have been moving nicely during the past week. The demand for newsprint also has shown signs of more life. The smaller papers just now seem to be excéptionally well favored and business in the agricultural areas has leaped during the early fall.

Box factories report a slight increase during the week. There have been some dull spots in the trade, but demand from candy makers and jewelry manufacturers has been increasing with the coming of cool weather and the holiday season. The textile trades continue to take a good volume. There has been an increase in demand from the hardware and automobile accessory trade.

Tissues are moving rapidly, better than a year ago. Officials of the Capital Paper Company, here report an increase of approximately 50 per cent over the volume of business done last year. Towels and other paper accessories used by the housewife also are more in demand.

Paper stock men report some slight betterment in mill demand and paying prices for the better grades of rags and papers both are slightly higher than they have been.

A. P. W. Paper Co. To Issue Bonds

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1935—The A.P.W. Paper Company, Inc., Albany, N. Y., has filed a registration statement with the Securities & Exchange Commission in accordance with the Securities Act seeking to issue $2,721,000 of first mortgage and collateral trust 20-year 6 percent sinking fund gold bonds, due April 1, 1948, with warrants, to be offered on a par for par exchange basis for Albany Perforated Wrapping Paper First Mortgage and Collateral Trust 6's 1948 unassented.

The company also proposed to offer 2,721 certificates representing 48,978 shares of $5 par value fully paid non assessable 4 percent cumulative Class A stock of the A.P.W. Properties Company, Inc., in lieu of 50 percent of the interest which the holders of the new bonds would receive beginning April 1, 1935, and ending October 1, 1937.

Government Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT]

Washington, D. C., October 16, 1935—The Government Printing Office has received the following bids at 6.06 cents per pound for 61,200 pounds of white sulphite bond paper; American Writing Paper Company, Inc., George W. Millar & Co., Inc., John F. Post, Bulkley, Dunton & Co., Whitaker Paper Company, Walker Goulard Plehn Company, Inc., Old Dominion Paper Company, Aetna Paper Company, Barton, Duer & Koch Paper Company, R. P. Andrews Paper Company, J. W. Butler Paper Company, Paper Corporation of the United States, Mathers-Lamm Paper Company, Virginia Paper Company, Enterprise Paper Company, and J. R. Howarth Paper Company. Alternate bids at 5.82 cents per pound were also received for this same lot from J. W. Butler Paper Company, Paper Corporation of the United States, Enterprise Paper Company, and J. R. Howarth Paper Company.

The following bids were received at 6.54 cents per pound for 57,500 pounds of pink sulphite writing paper: Cauthorne Paper Company, Inc., Bermingham & Prosser Company, Reese & Reese, Inc., Whitaker Paper Company, Old Dominion Paper Company, Graham Paper Company, Aetna Paper Company, Barton, Duer & Koch Paper Company, R. P. Andrews Paper Company, J. W. Butler Paper Company, Mathers-Lamm Paper Company, Enterprise Paper Company, J. R. Howarth Paper Company. Alternate bids at 6.3 cents were also received for this same lot from Enterprise Paper Company and J. R. Howarth Paper Company.

Bids were received at 9.7 cents per pound for 4,800 pounds of salmon blotting paper from: R. P. Andrews Paper Company, Barton, Duer & Koch Paper Company, Old Dominion Paper Company, Whitaker Paper Company. Cauthorne Paper Company, Inc., Mathers-Lamm Paper Company, J. R. Howarth Paper Company, and Enterprise Paper Company.

The following bids were received at 6.06 cents per pound for 33,900 pounds of white sulphite index paper: Virginia Paper Company, Whitaker Paper Company, Mathers-Lamm Paper Company, George W. Millar & Co., Inc., Reese & Reese, Inc., Old Dominion Paper Company, R. P. Andrews Paper Company, J. W. Butler Paper Company, Paper Corporation of the United States, and Stanford Paper Company. The following bids were also received for this same lot: Barton, Duer & Koch Paper Company and Enterprise Paper Company, at 6:11 cents: and J. R. Howarth Paper Company, 6.057 cents.

For 10,000 pounds of white ledger paper at 12.7755 cents per pound: Paper Corporation of the United States, Bulkley, Dunton & Co., Whitaker Paper Company, Old Dominion Paper Company, Barton, Duer & Koch Paper Company, R. P. Andrews Paper Company, Mathers-Lamm Paper Company, and Walker Goulard Plehn Company, Inc. Also J. R. Howarth Paper Company at 12.75 cents and 12.5 cents.

The following paper awards have been announced by the Printing Office.

Dobler & Mudge will furnish 100,000 (100 rolls) of M. F. book paper in 48 inch rolls at 4.93 cents per pound. J. R. Howarth Paper Company will furnish 40,000 pounds (200,000 sheets) of moss green desk blotting paper at 7.2 cents per pound. Bids for these items were received on September 25.

The Old Dominion Paper Company will furnish 57,000 pounds (2,000,000 sheets) of 50 per cent rag white glazed manifold paper at $11,628. Bids for this item were received on September 18. The Paper Corporation of the United States will furnish 36,400 pounds (200,000 sheets) of 22½ x 28½ single ply white sulphite index paper at 5.9 cents per pound, bid for which were received on September 16.

Newfoundland I. P. & P. Co. Offers Loan

The International Power and Paper Company of Newfoundland, Limited, a subsidiary of the International Paper Company, is offering at 97 in London £1,877,600 of 3% "A" Mortgage Debenture Stock maturing 1973. The prospectus is being issued through the Bank of England. The entire present outstanding issue of 4½ percent "A" Mortgage Debenture Stock due 1948 is being called for redemption on January 15, 1936. As in the case of the old issue this new Debenture Stock will be guaranteed by the British Treasury.

In addition, the British Treasury will exchange its holdings of £149,700 4½ percent Extended "A" Mortgage Debenture Stock, due 1973, for £154,300 3% Second "A" Mortgage Debenture Stock, due 1973, with a cash adjustment to cover the redemption premium on the old issue.

This refunding will result in a saving in interest charges amounting initially to about $125,000 a year.

The new 3 percent "A" Mortgage Debenture Stock will be secured by a mortgage on the major portion of the Company's property subject to the First Mortgage 5 percent bonds due 1968, of which $4,866,000 are now outstanding, held for the most part in the United States and Canada.

Rushmore Paper Mills To Start Soon

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., October 14, 1935—Announcement is made that operations at the Rushmore Paper Mills will start about November 1. Construction of the new addition for finishing purposes has been virtually completed and the other alterations are nearing completion. It is understood that over 150 hands will find work in the mill which was formerly the property of the Oswegatchie Paper Company. The final shipments of remodeled machinery arrived at the plant this week and these are understood to complete the equipment necessary for starting operations. The revamping of the machinery has been carried on under the supervision of the Bagley & Sewall Company, producers of the original machine which was bought by the defunct Oswegatchie Paper Company many years ago. Two new generators have also been installed in the plant. Activities during the repair work have been instrumental in employing many residents of this section and a business boom is predicted following reopening of the mill.

English Paper Industry Seasonally Slow

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1935—The seasonal period of inactivity in all fields of the paper trades continues to be much in evidence, according to a recent report from Vice Consul Myles Standish, Manchester. The British Government maintains its position as the trade's leading customer at present, as a result of the publicity campaign waged by the Post Office and also owing to the general stationery requirements. A considerable agitation has been carried on by users of paper with a view to effecting standardization paper-making, the individuality of the makers as evidenced by varying numbers of sheets per sales units, variation in colors and weights, etc., having led to difficulties in marketing.

Paper Men Invited To Conference

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1935—Leaders in the paper and allied industries, together with industrialists and labor leaders generally have been invited by Major George L. Berry, recently appointed coordinator for industrial cooperation, to attend a round table conference here "for consideration of the best means of accelerating industrial recovery, eliminating unemployment, and maintaining business and labor standards."

While no announcement has been made it is reported here that Major Berry would like to call the conference the latter part of this month. There is also a feeling prevalent that regardless of whether the answers are favorable or not such a conference will be called.

There are two major decisions yet to be made in connection with the proposed conference. One is whether a general conference will be called of both industry and labor, later to be divided up into groups for round table discussions, or whether separate conferences shall be called for related industries. The second question is whether industry will be asked to sit around a table to discuss questions with labor. These two questions are now before Major Berry and his lieutenants for final consideration.

In sending out his communications to industry Major Berry has attached the letter which President Roosevelt wrote just before Congress adjourned to Senator Pat Harrison, chairman of the Senate Finance Committee and Representative Doughton, chairman of the Ways and Means Committee of the House, in which he expresses hope that voluntary agreements can be made by industry.

"It will be observed that the men of industry", says Major Berry in his letter to industry, "both in managerial and labor capacities will be invited to Washington for the purpose of conferring upon the advisability of developing a permanent structure, contemplating the furtherance of prosperity and stability in our industrial life.

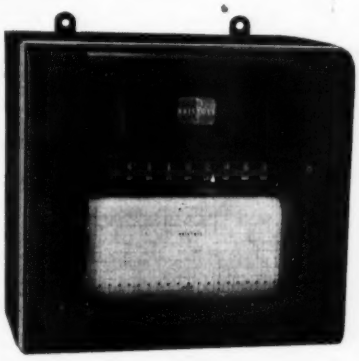
"It is my belief that conferences of the character suggested by the President, at which frank discussions of the problems can be had with the hope that understandings can be arrived at, will be of lasting benefit. In a word, these conferences are intended to identify the facts and to act upon these facts intelligently and constructively."

Chinese Paper Mills Import Pulp

Paper mills in China utilizing machinery may be divided into two classifications, in each of which are an approximately even number of mills: (a) those manufacturing cardboard and wrapping paper, and (b) those manufacturing Chinese writing and printing paper. There are six of the former, distributed among the coastal cities of China. These mills use only native raw materials, and consequently import no pulp. The eight mills producting writing and printing papers are located principally in the city of Shanghai. Only one of these is equipped with what might be considered up-to-date machinery. All of them consume imported pulp, supplemented with rags and waste paper. Imported pulp requirements are estimated in the neighborhood of 9,000 tons annually, consisting entirely of sulphite pulp. The United States, Canada, and the Scandinavian countries are the principal competitors for this trade. Since 1931 the amount of pulp imported has increased steadily, receipts having risen from 84 tons (long tons of 2,240 pounds) during that year to 5,069 tons in 1932, 7,275 tons in 1933, 10,363 tons in 1934 and 8,338 tons during the first six months of 1935.

New Potentiometer Pyrometer

The Bristol Company announces, as an addition to its line of industrial instruments, The Wide-Strip Pyrometer, which is available in single-record, multiple-record and recorder - controller types. This instrument, operating on the potentiometer principle of temperature measurement, has a built-in accuracy that commands attention. This accuracy is made possible through an almost unbelievably simple measuring, balancing, and recording mechanism.



A stainless steel lead screw, operated by an electrical motor under the direction of two galvanometer-controlled contacts, adjusts the slide-wire contact and recording-pen unit to maintain emf balance in the potentiometer system. This mechanism introduces an entirely new principle of operation into temperature measurement by means of the potentiometer method.

The unique design of the balancing mechanism is such that all mechanical backlash is taken up, making it possible to magnify scarcely perceptible deflections of the galvanometer pointer. No clearance is required between the pointer and the chopper arms. Deflections smaller than 1/1000 of an inch are easily measured.

The pen movement is always proportional to the size of the galvanometer deflection. This accounts for the quickness with which balance is restored and for the speed with which temperature changes are written on the chart.

The slide wire contact and recording pen are mounted on the same carriage. This particular feature greatly simplifies the mechanical construction of the instrument and completely eliminates errors due to backlash, lost motion, etc., which are usually associated with gears, linkages, and other types of intervening connections used, when slide wire and recording pen are not mounted integrally.

The carriage on which is mounted the slide wire contact and recording pen runs on four wheels over a substantial two-rail track. Three-point contact with the rails insures positive motion. It is driven through engagement with a hardened steel pin by a stainless steel lead screw. The lead screw, mounted on permanently lubricated ball bearings, is positively driven by an induction-type motor. There are no friction clutches nor ratchet mechanisms used.

Exhaustive tests under actual plant conditions have proved that this instrument will give performance approaching ideality. Bristol's Wide-Strip Pyrometer is described in Catalog 1450, which is available for all those requesting copies.

TAPPI Year Book Error

In the 1935 TAPPI Year Book recently issued, the name of J. R. Dufford was omitted from the membership list of the Grease Resistance Paper Testing Subcommittee.

The chairman of the Water Vapor Permeability Subcommittee is Everett Worth and not Allen Abrams as indicated.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Bloomfield, N. J.—Schiffenhause Brothers, 326 Riverside avenue, Newark, N. J., manufacturer of corrugated boxes and containers, has purchased factory at 350 Hoover avenue, Bloomfield, occupied by Sprucolite Corporation, manufacturer of woolen specialties, which will remove to another location at Boonton, N. J. Plant will be improved and occupied by purchasing company for expansion in box production. Immediate possession will be taken and operations placed under way.

St. Louis, Mo.—The Consolidated Manufacturing Company, recently organized to manufacture paper pulp products, has taken over space in building at 2820 North Spring avenue, totaling about 15,000 square feet, and will occupy for local plant. It is proposed to have works equipped and ready for service during December. George Tilles, Jr., is president of new organization.

Kalamazoo, Mich.—The General Container Corporation has been organized with capital of 4000 shares of stock, no par value, and plans operation of local plant for manufacture of paper boxes and containers of various kinds. New company is headed by Smith C. Hoover, 312 West Kalamazoo avenue, Kalamazoo.

Machias, Me.—The Maine Seaboard Paper Company, Augusta, Me., with mill at Bucksport, Me., is considering rebuilding of two sawmill units at lumber and pulpwood properties, Machias, recently destroyed by fire. Loss reported close to $25,000, including equipment.

Buffalo, N. Y.—The Buffalo Envelope Company, 270 Michigan avenue, manufacturer of commercial paper goods, will soon award general building contract for proposed new three-story and basement addition to paper-converting plant, recently referred to in these columns, to be 60 x 100 feet, estimated to cost in excess of $50,000, with equipment, and will proceed with superstructure closely following. Albert H. Hopkins, Liberty Bank Building, Buffalo, is architect, in charge.

Dearborn, Mich.—Ford Motor Company, Dearborn, has plans under way for new addition to paper mill at local Rouge Plant, used for production of card board, binder board and kindred paper products used in connection with automobile manufacture. Alterations will also be made in present mill. Plant capacity will be increased. Entire project is reported to cost in excess of $75,000, including equipment. Giffels & Vallet, Inc., Marquette Building, Detroit, Mich., is architect and engineer.

Childsdale, Mich.—The Pioneer Pulp and Paper Company, recently organized by officials of the Rogue River Paper Company, to take over local mill of latter interest, has active work in progress on reconditioning and improving the property, and expects to have the unit ready for service at early date. It is proposed to carry out similar line of output as heretofore, primarily strawboard and allied specialties. Employment will be given to a sizable working force. The mill has been idle for close to two years, following a short period of operation of the Rouge River company, which met with financial difficulties. H. E. Jones, president of the Pioneer company, was formerly president and treasurer of the former organization. C. H. Goodnow, likewise affiliated with the Rouge River company, is secretary and treasurer of the new organization.

Everett, Wash.—The Weyerhaeuser Timber Company, Pulp Division, Tacoma Building, Tacoma, Wash., will soon have pipe line construction under way by municipality for service at new local pulp mill, now in course of construction, previously noted in these columns. City has awarded contract to the Puget Sound Machinery Depot, 322 First street, South, Seattle, Wash., for quantity of 36-inch and 24-inch enamel-coated pipe for this purpose, totaling about 5118 feet in all. It is proposed to push the work to early completion; it will cost close to $45,000. Mills units, likewise, will be equipped as soon as buildings are ready.

Temiskaming, Que.—Canadian International Paper Company, Ltd., Beaver Hall square, Montreal, Que., has plans maturing for alterations and improvements in local mill, including building extensions and installation of equipment. Improvements will also be made in power house at mill, with installation of new automatic stokers and other equipment. Entire project is estimated to cost over $300,000, including equipment. Company is also considering early construction of group of houses for employees at mill, designed to accommodate about 20 families, estimated to cost upwards of $45,000. Company engineering department, Montreal address noted, is in charge. At its mill at Hawkesbury, Ont., Canadian International Company will soon begin construction of new one-story laboratory building, for which general contract has recently been let to A. F. Byers & Company, Ltd., 7226 University avenue, Montreal; it will be located on Main street, West, and is estimated to cost about $40,000, including equipment.

Hamilton, Ont.—The Dominion Glass Company, Ltd., Chapple street, has approved plans for new addition to plant, to be used for corrugated carton and box division, including extensive storage and distributing facilities. New unit will be one-story, 100 x 550 feet, and will cost over $85,000, including equipment. General building contract has been awarded to W. H. Cooper, 42 James street, South, Hamilton.

Columbus, Ohio—The Central Ohio Paper Company, 226 North Fifth street, has approved plans for new one-story building, 35 x 84 feet, for storage and distributing service. Superstructure will be placed under way at once. General contract has been awarded to the Heckart Construction Company, 17 South High street, Columbus. No estimate of cost has been announced.

Watervliet, Mich.—The Watervliet Paper Company, manufacturer of coated paper stocks, etc., has revised plans

under way for new one-story addition to mill, including alterations and improvements in present plant. It is proposed to begin work at early date. Leroy & Newlander, Kalamazoo, Mich., are architects.

New York, N. Y.—The Sheridan Paper Box Corporation, recently organized with capital of $10,000, plans operation of plant in Bronx for the manufacture of paper boxes and containers. Incorporators of new company include Samuel Passow, 1429 Franklin avenue, and Max Zinderman, 2008 Hughes avenue, both Bronx.

Dresden, Ohio—The Dresden Paper Mills Company, manufacturer of straw board and kindred paper products, has plans nearing completion for miscellaneous work in connection with new steam power plant at mill, previously referred to in these columns, including power piping, steam connections, etc., and will take bids at early date. Entire project is reported to cost in excess of $25,000. A. M. Kinney, Inc., Carew Tower, Cincinnati, Ohio, is consulting engineer.

Camden, Ark.—Bagpak, Inc., 220 East 42nd street, New York, N. Y., manufacturer of heavy paper bags and containers, for cement, plaster, etc., has begun construction of proposed new mill at Camden, recently referred to in these columns, and will push work to early completion. Plant will be one story, 110 x 300 feet, with smaller buildings adjoining, and is estimated to cost upwards of $100,000, including equipment. Large capacity will be arranged. As previously noted, paper stock for conversion will be secured from local mill of the Southern Kraft Corporation. Both companies are identified with the International Paper Company, 220 East Forty-second street, New York.

New York, N. Y.—The Gaylord Bag and Paper Company, St. Louis, Mo., manufacturer of paper bags and containers, etc., an interest of Robert Gaylord, Inc., 2816 South Eleventh street, St. Louis, has filed notice of company organization, with capital of 2500 shares of stock, no par value, to operate in New York, with local offices at 120 Broadway. E. J. Spiegel is treasurer. Parent company, noted, specializes in manufacture of corrugated and fiber boxes and containers, capitalized at $75,000, is also operating in New York.

Brooklyn, N. Y.—George Crizzo, Inc., 699-701 Third avenue, waste paper goods, is considering rebuilding of portion of three-story storage and distributing building, location noted, recently damaged by fire. Loss estimated close to $25,000, including stock and equipment.

Houston, Tex.—Clarke & Courts, Inc., 2402 C street, Galveston, Tex., wholesale paper goods, has concluded arrangements for purchase of property on West Clay street, between Van Buren and Eberhard streets, Houston, as site for new branch storage and distributing plant, recently noted in these columns. Bids will soon be asked on general contract for building, which will be one story, 180 x 220 feet, with three-story tower unit in center. A portion of the new branch will be used for paper-converting division. It is reported to cost close to $75,000, including equipment. Work is scheduled to begin in about thirty days. Joseph Finger, Inc., National Standard Bank Building, Houston, is architect.

Dayton, Ohio—The Aetna Paper Company, 115 Columbia street, is awarding contracts for equipment for proposed extensions and improvements in power plant, and active work on project will soon begin. An award for a new stack has been let to the Rust Engineering Company, Koppers Building, Pittsburgh, Pa.; contract for stokers has been placed with the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. Other awards will be made at early date. Entire project will cost about $80,000, including equipment. W. I. Barrows, Reibold Building, Dayton, is consulting engineer.

Toronto, Ont.—The Purity Milk Cap Company, Ltd., 76 Stafford street, manufacturer of paper milk caps and kindred paper specialties, has leased a floor in former local plant of the Metallic Roofing Company, 1190 King street, west, totaling about 7300 square feet floor space, and will equip and occupy for new branch plant. Present works will be continued as heretofore.

Niagara Falls, Ont.—The Kimberly-Clark Corporation Packard road, Niagara Falls, N. Y., manufacturer of absorbent wadding and kindred paper specialties, with headquarters at Neenah, Wis., has awarded general contract to the Smith Brothers Construction Company, Ltd., Niagara Falls, Ont., for new addition to plant on Victoria avenue, last noted place, occupied with Kotex Company of Canada, Ltd. It will be two-story and basement, 68 x 135 feet, estimated to cost over $50,000, with equipment. Superstructure will be placed under way at once.

Bridgewater, N. S.—The Annapolis Basin Pulp and Paper Company, Ltd., is considering construction of new pulp mill on local site, to consist of several units with power house. Large capacity will be developed. It is estimated to cost over $230,000, including equipment.

Thorold, Ont.—The Ontario Paper Company, Ltd., and Beaver Wood Fibre Company, Ltd., both with local mills, are planning construction of new 6-inch copper pipe line between the two plants to be used for sulphide transmission. Several branch lines will be constructed to reach various parts of the mills.

New Companies

Chicago, Ill.—Consolidated Carton, Inc., 1415 West 37th street, has been organized with capital of 1000 shares of stock, no par value, to manufacture and deal in paper boxes, cartons, etc. The incorporators are Daniel L. Donovan, L. M. Thompson and V. C. Peterson.

Cambridge, Mass.—The Cros-Dick Corporation has been incorporated with capital of $30,000, to manufacture and deal in commercial paper products, including loose-leaf specialties and similar goods. G. F. Ray is president; Ralph C. Dickey, 286 Third street, Cambridge, is treasurer and company representative.

Detroit, Mich.—The Lily Tulip Cup and Specialty Company, 224 East Third street, Cincinnati, Ohio, manufacturer of paper drinking cups and kindred paper goods, has filed notice of organization to operate in Michigan, with capital of $100,000. Offices are at 445 West Fort street, Detroit, Mich., with J. Herbert Hildebrand, representative.

New York, N. Y.—The Lanatin Corporation has been incorporated with capital of 200 shares of stock, no par value, to manufacture and deal in fibre products. New company is represented by Sidney Mattison, 150 Broadway, attorney.

Brooklyn, N. Y.—Unicrafts, Inc., has been incorporated with capital of $10,000, to manufacture and deal in tissue paper goods and allied paper specialties. The incorporators include Arthur M. Anderson, 608 Second street, and John C. Rosanski, 152 27th street, Brooklyn; and H. H. Pottle, Jr., 1408 Victoria avenue, Los Angeles, Cal.

Chicago, Ill.—The Premier Paper Company, Inc., 208 North Wells street, has been formed with capital of 100 shares of stock, no par value, to deal in paper goods of various kinds. The incorporators are Joseph E. Pierce and George Veesenmeyer.

Watertown, N. Y.—The K. & M. Paper Company, Inc., has been incorporated with capital of $20,000, to manufacture and deal in paper products of various kinds. The incorporators are Kenneth W. Coseo, 118 Michigan avenue, Watertown; and Carl J. Haynes, 129 Ward street, same city. Last noted is company representative.

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AMERICAN BUSINESS POLLED TO TEST NEW DEAL SENTIMENT

American business has been asked by the United States Chamber of Commerce to delve into the New Deal and to give expression to its views on recent trends in Federal legislation. For this purpose the Chamber addressed questionnaires to its 1,500 constituent bodies, representing, it is stated, more than 750,000 firms and individuals.

The referendum was authorized by the board of directors at its September meeting, and was considered at that time as a sign that organized business was preparing for a major offensive against the administration in Washington.

The board directed distribution of a report of its special committee on legislative trends, which directly or by implication argued against recent legislation.

"Yes" or "no" answers to the following questions were sought:

Should there be extension of Federal jurisdiction into matters of State and local concern?

Should the Federal Government at the present time exercise Federal spending power without relation to revenue?

Should there be government competition with private enterprise for regulatory or other purposes?

Should all grants of authority by Congress to the Executive Department of the Federal Government be within clearly defined limits?

It was in accordance with an established practice that the chamber submitted the full report of its special committee, with arguments for and against the questions presented. The purpose of the referendum, it was announced, was to obtain a frank view from business not as to specific acts, but upon the trend of laws enacted since President Roosevelt took office.

"Out of study and analysis of recent legislation, the committee believes a strong trend emerges It appears and reappears in so many enactments dealing with diverse subjects, and when frustrated in one form so persistently is renewed in another form, that the trend assumes the character of concerted policy."

These trends which have been mentioned by the committee, and for which the committee asks the most thoughtful attention, include:

Exercise of the spending power without regard to resources, for purposes within the powers of neither Federal nor State governments, and on a scale that brings to every business and every individual the dangers flowing from a continuing unbalanced budget.

Extension of competition by Government enterprise into the fields of private endeavor, for the purpose of regulating private enterprise, or otherwise.

Regulation by the Federal Government of production, industrial and agricultural, and local marketing and retailing—with the Federal Government impinging upon the individual in his every-day affairs in making a living—in planting crops, in working at a trade for himself or in working as an employee of another.

Delegation of powers to the executive department of the Federal Government and constantly enlarging administrative agencies and bureaucracy for detailed application of measures with all decisions for the whole country at a central point and consequent delays and expense for citizens even as to matters in themselves of small importance.

Beginning with banking, it continued, the legislation has attempted both specific and general regulation of enterprises engaged in production and other activities within the States. It has endeavored to extend Federal jurisdiction and action into areas which have heretofore belonged exclusively to the States.

"Specific regulation has gone to profits—as in the case of private concerns accepting contracts with the Navy; to maximum salaries paid, as in the case of enterprises of some classes obtaining loans from the Reconstruction Finance Corporation; and to relations between employers and their employees, as in the Labor Relations Act," the report explained.

"These statutory provisions have related to the issue of securities for the financing of business enterprise, with such extreme provisions imposing vicarious penalties and liabilities as to reduce legitimate financing and refinancing.

"It has extended to exchanges upon which securities are bought and sold, and to the nature of these securities, to electric and gas utilities, with danger that the jurisdiction of the States to regulate businesses essentially local will be superseded by remote Federal regulation; to utility holding companies with power in a Federal agency to curtail, simplify or dissolve as it may deem best, and, finally, to the bituminous coal industry, despite varied conditions in different coal fields.

"In agriculture there has been an attempt to control directly the production of crops, in the case of cotton, of tobacco and of potatoes, and in the case of tobacco, to continue control after the declared objective—'parity prices'—

has been reached. The last enactment on the subject, which became law on August 24, increased the height of parity prices, apparently for the purpose of prolonging regulation.

"The bases upon which legislation has been rested also show variety, some of them being heretofore untried and consequently untested. When it became apparent that the powers of Congress with respect to interstate commerce might not prove adequate, resort was had to assumed power to close the mails to businesses that did not conform to Federal legislation, and there was subsequently recourse to heavy excise taxes with remission for those businesses that acquiesced.

In the legislation for the Tennessee Valley Authority and in works begun by the Federal Government, and by municipal governments with loans and grants of Federal money, there has been attempt to regulate business enterprise through publicly financed competition with it.

"This sort of competition has even appeared in the Federal Government itself acquiring lands in cities and erecting housing, the lands and improvements being withdrawn from State and local taxation. Upon attempt by the Federal Government to condemn lands for such housing, it has met with rebuffs in the courts, which have so far held that erecting and renting houses and apartments is not a public purpose."

American Writing Paper Co. Rumors

HOLYOKE, Mass, October 15, 1935—President Sidney L. Willson of the American Writing Paper Company Inc. is apparently undisturbed by rumors that have been printed that he was to be succeeded as president of that company by Thomas Harper Blodgett of Great Barrington, Mass.

He said that there were so many rumors arising coincident to the reorganization of the company now under way that he could not keep track of them. He characterized Mr. Blodgett as a fine and successful business man; he had met him personally.

He was inclined to lay the cause for this particular rumor to the reorganization. That is in the hands of a firm of New York lawyers, Attorney Russell L. Davenport of this city being local representative.

He expected that the plans for this reorganization would be divulged early next month. When interviewed by a Holyoke newspaper man on this rumor at Great Barrington, Mr. Blodgett said that he did not expect to be president of the company though he remarked on its being a remote possibility.

L. G. Wood Leaves Northern Paper Mills

GREEN BAY, Wis., October 14, 1935—L. G. Wood, vice president of the Northern Paper Mills, has resigned and the resignation has been accepted by the board of directors. Mr. Wood has been associated with the company since 1921 serving as assistant sales manager up to 1926. When H. W. Brightman retired from the position of sales manager to join the Crown Willamette Paper Company, Mr. Wood became sales manager. In 1929 he was made vice president in charge of sales and assistant general manager, which position he has held up to the present time. Mr. Wood has under consideration several propositions, but is not ready as yet definitely to state his plans for the future.

Weekly Production Ratio Report

Reports to the American Paper and Pulp Association show the following Over-All Production Ratios for the designated periods.

	Reporting Mills		Total Production Ratio
	Number	Capacity	
September, 1934	292–299	.....	59.4%
October, 1934	297–394	.....	64.7%
November, 1934	385–399	.....	61.7%
December, 1934 (a)	396–404	.....	62.1%
January, 1935	397–411	.....	65.8%
February, 1935	407–409	.....	70.0%
March, 1935	406–408	.....	70.5%
April, 1935	405–407	.....	70.0%
May, 1935	381–407	.....	69.4%
June, 1935	357–376	.....	72.3%
July, 1935 (b)	357–358	.....	67.8%
August, 1935	346–354	.....	70.9%
*Week ending September 7, 1935 (c)	345	120,008	76.7%
*Week ending September 14, 1935	346	144,551	72.7%
*Week ending September 21, 1935	342	141,216	75.6%
*Week ending September 28, 1935	336	138,717	74.7%
*Week ending October 5, 1935	262	104,397	72.5%

Statistics showing the number of mills reporting by ratio groups are given below:

	Number of Mills Reporting — Week ending				
Ratio Limits	Sept. 7, 1935	Sept. 14, 1935	Sept. 21, 1935	Sept. 28, 1935	Oct. 5, 1935
0% to 50%	97	103	99	91	77
51% to 100%	248	243	243	245	185

* Subject to Revision.

According to reports from the National Paperboard Association per cents of operation, based on "Inch-Hours" were as follows:

	September, 1934	62%		June, 1935	65%
	October, 1934	63%		July, 1935	59%
	November, 1934	56%		August, 1935	65%
(a)	December, 1934	53%			
	January, 1935	61%		September 7, 1935	61%
	February, 1935	67%		September 14, 1935	72%
	March, 1935	67%		September 21, 1935	71%
	April, 1935	61%		September 28, 1935	75%
	May, 1935	61%		October 5, 1935	75%

(a) Capacity and percentage data exclude December 25, 1934.
(b) Capacity and percentage data exclude July 4, 1935.
(c) Capacity and percentage data exclude September 2, 1935.

Revised statistics covering delinquent mill returns will be shown in later reports.

To Ask Paper Bids for Six Months

[FROM OUR REGULAR CORRESPONDENT]

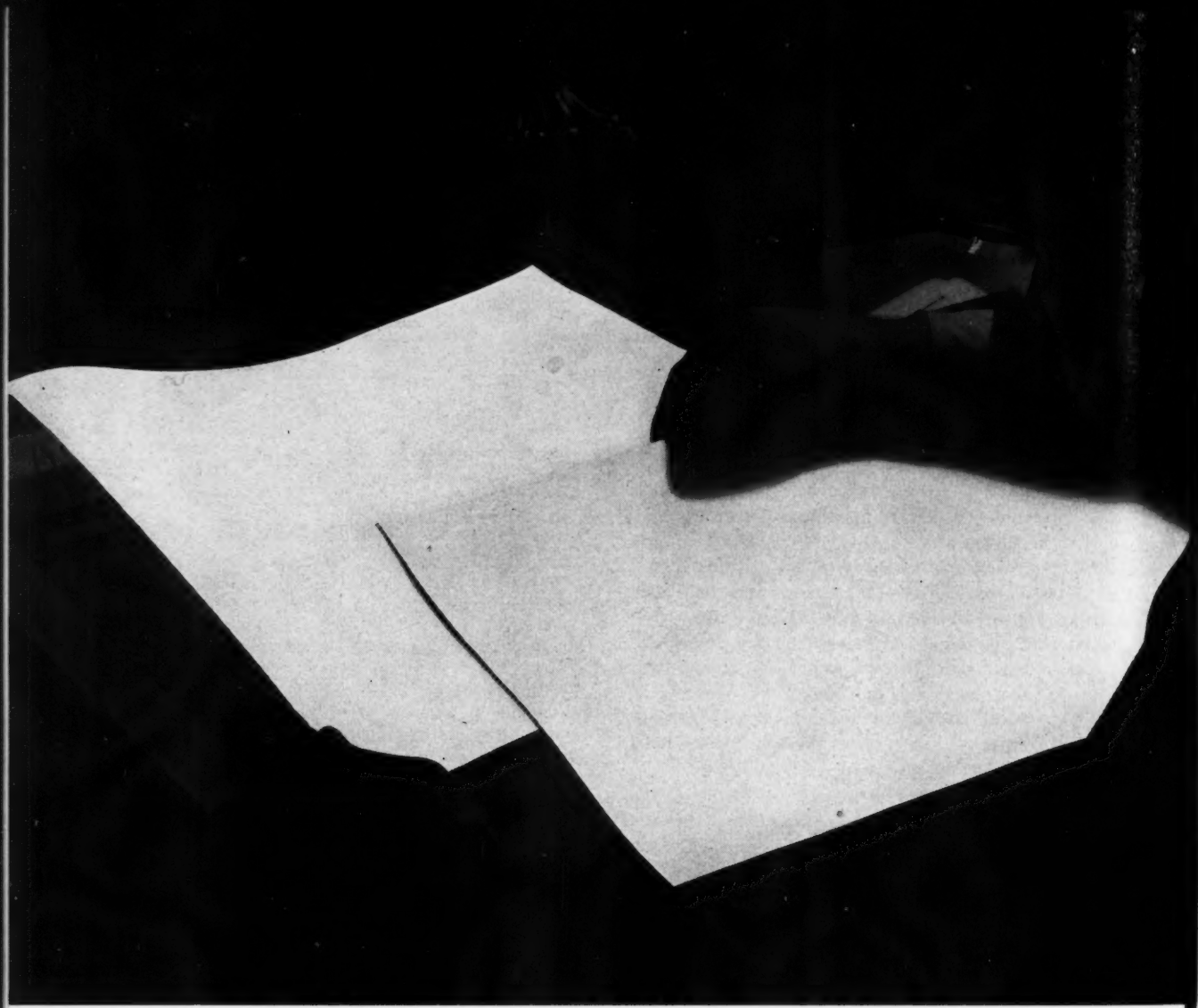
WASHINGTON, D. C., October 16, 1935—The paper specifications committee of the Joint Congressional Committee on Printing has completed its report and recommendations for paper for the Government Printing Office beginning January 1 next. The present contracts ran from July to January first.

It is understood that the specifications committee will recommend that bids be opened for six months from January 1 and that no changes were made in the last schedule except for sizes. Definite action will probably be taken by a subcommittee of the Joint Committee at a meeting probably to be held October 21, but it is believed that the bids will be opened the latter part of November and awards made one week later. The date and other matters, however, are not official until they have been approved by the subcommittee of the Joint Committee.

Newton Paper Co. Opens In New York

The Newton Paper Company, Holyoke, Mass., has established a New York district sales office at 11 West 42nd street with F. H. Knoll, who is well known in the trade in the Metropolitan area, in charge.

The establishment of the New York office, with a resident mill representative in charge, brings the company into closer contact with the trade and every effort will be made to cooperate to the fullest extent.



Better Color Is Always in Demand

And many manufacturers are enjoying greater sales by meeting the demand with papers made whiter with Zinc Sulphide Pigments. Papers that are more opaque, too, with less "show through" to tire the eye or divert the mind.

Several types of such papers are being featured by progressive dealers. And all the types are identified by this improved color which bespeaks quality and which makes them attractive to the consumer.

Through the wide range of Cryptone and Albalith Zinc Sulphide Pigments, the paper manufacturer is offered a convenient means of producing these new papers of better color and opacity.

If such characteristics are of interest in your market, we shall appreciate an opportunity to discuss your problem with you. Our Research Department is the largest in the world devoted to the development and application of white pigments.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK

ZINC SULPHIDE PIGMENTS IN PAPE

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

A Modern Viewpoint on Color Selection

By Faber Birren[1]

Variety and personality have long been distinguished in the hues of the spectrum. Warmth, coolness, brightness, depth have been studied and applied to color harmony. Yet no really profound understanding has resulted that might lead to a more direct and scientific knowledge of the nature of color as sensation and therefore as emotion.

In a previous article I pointed out that color (any and all pure colors) can have only seven forms. Three of these, hue, white, black, are elemental and combine to produce four secondary forms, tint, shade, gray and tone. These seven forms include all possible manifestations of color and nothing exists which cannot be classified as one of them.

Simplification of this sort, which refers to the modification of color with black and white, can also be extended to pure colors themselves. The effort is comparatively new to the color art and leads to harmonies which go far beyond anything yet accomplished in the history of the subject.

In 1730 a man by the name of LeBlond developed the red, yellow, blue chart which later became the foundation of much color theory. In a later century Helmholtz discovered that light travels in three packets consisting of red, green and blue-violet. Still later, Hering in the field of psychology, pointed out that red, yellow, green and blue were fundamental.

Curiously, the three ideas were and are today all correct. Red, yellow and blue are primary in the chemistry of pigments. Process printing is proof enough that these three hues will form all others—in *pigments*. Likewise, red, green and blue-violet are fundamental in light, and rays of them will produce the other hues of the spectrum, red and green, for example, combining to form yellow.

However, the chemical and physical nature of colors and color mixture has little relationship to the human nature of color. Even though certain pigments and certain lights will react peculiarly, the eye and the mind will undergo a reaction of its own that seems in contradiction.

This is readily explained. Red and green lights form yellow. Yet this yellow result which the eye sees is unique, and no average person will state or assume that yellow looks anything like red or green. Yellow and blue pigments form green. And again the average person, particularly children, will see green specifically as green and not as a combination of yellow and blue.

In color harmony, appearances count more than physical facts. Brown, for example, which may have the same wave length as orange (though with less brightness) is not at all like orange. If the art of color is to be at all human and to relate itself to sensation and experience, technical and scientific evidence will have to be neglected for more common sense based on simple observation.

As far as the eye is concerned, there are four unique colors. These are red, yellow, green and blue. In the use of color for its appeal and application to things, objects and products, the psychological viewpoint is necessary. All other pure colors bear resemblance to red, yellow, green and blue and lack uniqueness. Orange is like red and like yellow, but red and yellow are not like orange. Violet is like red and like blue, but red and blue are not like violet.

These facts find their basis in observance and are confirmed by experiment as well as by simple judgment. Show any child an assortment of pure hues and he will quickly relate them in the order expressed above. These four primaries will be singular, and the secondaries will seem "in-between."

The Visual Color Chart

The visual color chart very neatly lays out the spectrum in correct psychological order. Red, yellow, green and blue are given prominence, with orange, leaf (yellow-green), turquoise (blue-green) and violet located as secon-

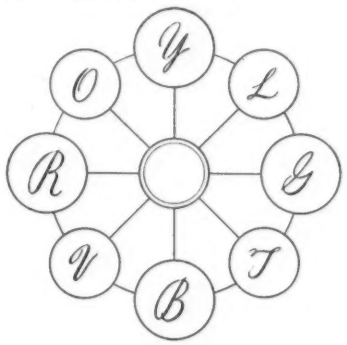


FIG. 1
The Visual Color Chart

[1] 919 North Michigan Ave., Chicago, Ill.
Note: Mr. Birren is the author of two excellent books, "The Printer's Art of Color" ($1.50) and "Color Dimensions" ($2.00). These are available through the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York, N. Y.

daries. Because this chart has relationship to the eye it naturally is a logical device with which to explain the more modern principles of harmony.

In the past color education has looked upon all colors in very much the same way. Although some hues were declared warm and some cool, no really intelligent classification was made. Pure colors were pure colors. Whether orange or red, blue or violet, certain principles could be carried out and the effects would be correspondingly alike. On the traditional red, yellow, blue chart red and green were called opposites, as were orange and blue. The effect of opposites was striking and bold. Red and orange were adjacents, as were violet and blue. Adjacents were mellow and more subtle.

Such reasoning as this tells only half the story. First of all, the visual color chart is nearer to truth in the arrangement and location of distinguishable colors. Secondly, no one set rule or principle can be applied to all colors without causing variety rather than uniformity. Effects will differ as the colors differ with respect to primary and secondary characteristics.

This will all be made evident by applying a few traditional rules of color harmony to the visual chart. Using one principle, the harmony of adjacents, two distinct types of beauty, not only one, will be created. Going around the chart the following two groups of color schemes are developed.

ADJACENTS RESEMBLING THE KEY HUE	ADJACENTS NOT RESEMBLING THE KEY HUE
Orange and violet with red	Yellow and red with orange
Orange and leaf with yellow	Yellow and green with leaf
Leaf and turquoise with green	Green and blue with turquoise
Turquoise and violet with blue	Red and blue with violet

A study of these two groups of adjacent combinations impresses the fact that color harmony has found new expressions. It is no longer enough to think of any hue and all hues in the same breath in carrying out a specific principle of harmony such as the use of adjacents. The effect will differ as the visual characters of the hues differ.

In the first group above, two adjacents resembling one primary are used together. The result is naturally soft and rather elegant. Orange and violet both resemble red. They accord softly and blend without contrast. This same is true with the other combinations in this group. In the second group the two adjacents (both primaries) do not bear likeness to the key hue. Yellow and red do not look like orange. This type of scheme is more vivid and aggressive and is quite different in effect.

With opposites the psychological qualities of hue are again important and influence the apparent boldness or refinement of color schemes. It requires no imagination or argument to realize that the primary opposites, red and green, yellow and blue are striking and elemental in appeal. On the other hand the secondary opposites, orange and turquoise, leaf and violet, while endowed with much visual contrast, are none the less refined. These two pairs lack the rather crude simplicity of the primaries and consequently exert a different emotional reaction.

Split-Complements

A more interesting study is found in the split-complements listed here:

PRIMARY HUES WITH SECONDARY SPLIT-COMPLEMENTS

Red with leaf or turquoise or both
Yellow with turquoise or violet or both
Green with orange or violet or both
Blue with orange or leaf or both

SECONDARY HUES WITH PRIMARY SPLIT-COMPLEMENTS

Orange with green or blue or both
Leaf with red or blue or both
Turquoise with yellow or red or both
Violet with yellow or green or both

Here the two groups, although they both follow the same principle of harmony, are astonishingly different in appearance and appeal. In the first group two secondary hues are contrasted with one primary. Naturally the result is less spectacular than with the second group where two primary hues are contrasted with one secondary. In the first instance the schemes have only one unique color, offset by two secondaries which tend to add subtlety without a great deal of distraction. In the second instance the two primaries offset by one secondary tend to maintain their visual uniqueness and the schemes become more vivid and striking.

Finally the psychologist's color chart exhibits two four-color or tetrad harmonies. The first, red, yellow, green and blue, is the most startling combination of pure hues possible. Orange, leaf, turquoise and violet, on the other hand, form a tetrad with considerable refinement and atmosphere.

These ideas are new, I believe, to the study of color harmony. They call upon psychology for aid, and they extend the possibilities of color power to new and more human heights. They mark a progressive step in the development of an art that has been rather dormant for a long time—despite the countless gadgets and systems which have been flourished before the eye in recent years.

And here are a few more individualities of color. Contrast seems to relate itself to vision; analogy seems to relate itself to emotion. Color combinations, strong in opposition, usually throw a hue of one personality into collision with a hue of quite another character. Although the eye may be thrilled, any great emotional appeal is lost. Red with green or blue-green, for example, throws together a warm, advancing hue with a cool, retiring one. The emotional qualities of the colors are not given a chance to work—hot and cold make luke-warm.

However, when analogy instead of contrast is introduced, colors assume more personality. Red and orange, orange and yellow, blue and green—combinations like these are either warm or cool in feeling. Emotion is given a chance to operate and the eye and mind a chance to experience a definite and concise response.

In this connection it is interesting to note that the warm hues generally make the best shades and the cool hues the best tints. Shades of red, orange and yellow, which are maroon, brown and olive, have more appeal than black-containing violet, blue or green. These latter colors seem only dirtier when black is added to them. However, when white is added to pure colors, violet, blue and green are enhanced, and red, orange and yellow tend to suffer.

The color art has too long remained ignorant of and indifferent to psychological facts. With streamlining as a credo in design and production, it is time also for color to be reduced to a more elemental basis. Color theo has been cluttered up with too many appurtenances. It has needed simplification. Thanks to psychology, the world can make a new and confident start today.

May Utilize Waste Sulphite Liquor

HOLYOKE, Mass, October 15, 1935—An out of the city corporation is stated to be interested in the refining of the cooking liquor discarded by the Mt. Tom Sulphite Company at Mt. Tom Junction.

Representatives of the Company have made inquiries of city officials as to the building regulations and intimated they plan a building costing from $15,000 to $20,000.

Officials of the sulphite concern intimate that the matter is yet in an indefinite form and that no agreement has yet been reached between the mill and the company.

Some Effects of Mechanical Treatment of Fibers on Sheet Structure*

By R. H. Doughty[1]

Abstract

An engineering science of paper making must be based on accurate knowledge of material properties and the operation of unit processes. These are outlined. The limited semi-quantitative data on the influence of fiber treatment on fiber properties and thence on sheet structure are reviewed, to show how one part of this science can be developed.

There are at least three ways in which to approach the problem of making a particular sheet of paper. The first is to use whatever raw materials and equipment are available to produce a sheet as nearly as possible of the desired quality. The only guide is the papermaker's experience, and the operation is purely a technologic art. The second method is to evaluate the materials through the medium of a standard processing, and to standardize the mechanical treatment in paper making as closely as possible. The chief characteristic of this method is the attempt to evaluate pulps and stuffs in terms of the papers they will produce.

The third approach is to consider the raw materials as structural units from which the paper is fabricated. This involves the basic assumption that the properties of a sheet exist by virtue of the material properties and the sheet structure. It demands that the significant properties of the material, as such, be known and measured. It also demands that the mechanism by which these properties are converted to sheet properties be clearly understood.

This conception of paper making as an engineering science to which the principles of mechanical and chemical engineering may be applied in detail is relatively new. In order to develop it, the properties of fibers and sheets must be measured, and their relations studied. In order to measure these properties they must be clearly defined and understood. In order to complete the picture, the operation of paper making must be broken down into unit processes which can be analyzed separately.

The writer has been fortunate in having been connected with some of the first work definitely undertaken in this field. In the present discussion the purpose is to focus attention on the means by which the properties of fibers, as changed by processing, affect sheet structure. From it will appear some indication at least of what fiber properties are significant in this respect and how their effects can be quantitatively evaluated. Before going into this, however, it is desirable to outline the whole problem in somewhat more detail. Primarily, it is necessary to define what are meant by materials, structure, processing and properties.

Materials

The basis of a sheet of paper is a continuous web of fibrous particles bound together in some way which need not be specified. The units in the web will here be termed *fibers,* whether they are whole fibers or fragments, for convenience. These are the primary material of the sheet. On this fibrous structure is imposed a superstructure of added materials such as size, dye, and filler. The behavior of these can most easily be evaluated in terms of the effect which they have on otherwise similar structures.

Elements of Sheet Structure

The mechanical structure of a sheet of paper is simply the placement of the fibers in relation to one another and to the sheet surfaces. This can be broken down into several components or elements.

The structure element most readily observed is *formation,* as the term is generally used. This requires no definition. It may be open or close, wild or uniform.

A second element of structure is that of *arrangement* of the fiber axes relative to the principal axes of the sheet. It is the factor which determines directional strength and no doubt has a bearing on other properties.

The third, most easily measured and most important component of structure is the sheet density or *solid fraction* value. By this is meant the proportion of solids by volume in the paper sheet, the balance being air. Since the fibers are the primary solid component, the term solid fraction if unmodified will refer to them alone. There is also of course always some water present in paper. It is so closely associated with the fibers, however, that until more is known about its behavior it must be considered part of them, and recourse must be had to testing all papers under standard moisture conditions.

The *air fraction* may be considered as a component of paper structure, but it also has a structure of its own comprised of pores, recesses and voids of varying shape and arrangement. These differences in the structure of the air fraction have a considerable effect on some properties of sheets otherwise apparently similar.

Sheet and Fiber Properties

The *basic properties* of both sheets and fibers have been defined (*1*) as *dimensions, materials,* and *structure.* A complete knowledge of these should tell all that could be learned about either sheet or fiber. The *working properties* are strength under various stresses, resistance to the flow or absorption of liquids, vapors and gases, optical properties, and surface character. Some of these can be measured with accuracy and some cannot. Any improvement in our knowledge of how they are related through processing and structure to fiber properties will be beneficial.

Processing

Processing can be separated into fiber processing and sheet processing. These can also be broken down into elements. Those of fiber processing are rather badly mixed together in many ways, through chemical and physical fiber processings can be separated. There may also be special steps in sheet processing that should be described as chemical. The physical ones are of most interest, however. The operation of *sheet forming* is an intermediate step between fiber and sheet processings and is where the structure of the sheet first begins to become establishd.

The first processing to which a formed sheet is subjected is *wet pressing,* the second *drying* and the third, dry pressing or *calendering.* The most important occurence in dry-

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ing, so far as structure is concerned, is *shrinking*. It is the differences in shrinkage behavior, and in air fraction, that most clearly characterize the effects of fiber processing on sheets when sheet processing is held constant.

Measurement of Properties

It has been suggested that basic data on fiber properties especially are scanty because simple means of measurement are lacking. Recent developments in screen fractionation give rise to the hope that other means of characterizing fibers simply and independently of test sheets can be found. The work of Ruth and his associates on filtration (*4*) should be helpful in clarifying the freeness and rate of flow tests, especially if taken in conjunction with Simmonds' (*5*) investigation of fibers in non-aqueous suspensions. By comparing such measurements with the structure of sheets formed and processed identically, the relation of fiber properties to sheet structure and thence to sheet properties could readily be determined. This would lead to the ultimate step of specifying sheets for particular uses by their basic properties and selecting by their basic properties materials which under suitable processing will give the desired sheet.

This may be arrived at in the following way. It seems logical to suppose that the fiber properties of primary importance in determining sheet structure will be dimensions and flexibility. At least all recent attempts to define what happens when paper is made tend in that direction. Then by making sheets from fibers of known dimensions or known combinations of dimensions, under various processing conditions, the effects of sheet processing on structure could be evaluated. The relation of structure to processing would be different for fibers of the same dimensions but otherwise not identical. These differences must be referred to flexibility, which should be a resultant of material and structure in the fibers. By such a gradual process of factoring one property after another, a complete picture would finally be obtained.

Effects of Mechanical Treatment on Fibers

Mechanical treatment can do just three things to fibers; it can increase their flexibility, split and shorten them. From the standpoint of structure, whether the smaller portions are still partly bound to the larger ones, should not be very important. The present means of recognizing these effects are by microscopic measurement, screen analysis, and freeness. By working along the lines laid down in the preceeding paragraph it will be possible to interpret mechanical processing in terms of its three effects and ultimately to devise simple measurement methods for them.

Some definite indications can be drawn from the writer's work previously referred to (*3*). It must be borne in mind that this was done with pulp test sheets subjected to plate pressure rather than roll pressure, but the general conclusions should be independent of this fact. The important points to observe are the effects of fiber processing on density of the wet sheet, and on shrinkage.

Fiber Treatment and Wet Solid Fraction

A number of sheets were made from pulps and stuffs at different degrees of processing, under a series of wet pressures. Sheets were also made from the screen fractions of unbeaten pulps. The solid fraction of the wet sheet under pressure was calculated from its moisture content on removal from the press. This method may be criticized, but gave comparable and regular results.

The water removal at any pressure was less for slow than for free stuff, although the sheets were pressed to apparent equilibrium. The change was greatest at the start of beating; for example, an unbeaten pulp gave a wet solid fraction about 0.03 greater at any pressure than a stuff of 85cc. freeness (Green) reached after four hours beating, while the same pulp beaten in 1 hour to 550 cc. freeness gave a solid fraction only about 0.01 greater than the fully beaten stuff.

The short (0.07mm.) screen fraction of a gum sulphite give a wet solid fraction at any wet pressure about 0.06mm. less than the long (1.32mm.) fraction of that pulp. It should be noted that the fibers in the short gum fraction were mostly square-ended, and of a length from one to three times their diameter. Unbeaten pulps of similar type (e.g. spruce sulphite) all gave the same results, or nearly so. The long-fibered fraction of a pulp gave higher wet solid fraction than the whole pulp, naturally.

This is only a repetition of the known fact that a free sheet not only drains but presses easier than a slow one. The fine gum fraction, however, was far from free, having a very long drainage time. It can only be concluded that the pressings here reported could not have been carried to equilibrium but must have been influenced by the rate of water removal. When spheres of uniform size are packed together, the total void space remains the same, but the cross section of any particular void is decreased. The rate of flow of liquid through a capillary varies as the fourth power of the radius, while the number of capillaries required to give a fixed total cross section varies inversely as the square of the radius. Therefore the flow of water through a mat of uniform spheres would decrease rapidly as these spheres were made smaller. The same thing must occur in a pulp mat. To work out all the details of the relation of drainage rates or pressing, to fiber dimensions, is a task requiring much experimental and mathematical work, but should lead to interesting results. Why the drainage rate as measured by the freeness test and the relative ease of pressing do not run parallel, although they do change in the same general direction, cannot be explained until that work is done. When it is done, it will certainly give useful information on the effect of fiber dimensions upon the internal structure of the wet sheet.

Fiber Treatment and Shrinkage

The variation of water removal under a given condition from fibers given different processings is small, though definite. Much more striking results are obtained when the shrinkage on drying is considered. It is this shrinkage that plays the most important part in determining the solid fraction element of sheet structure. Since shrinkage is calculated from solid fraction in the press, while the sheets actually expand more or less when the pressure is released, the value of the figures given can be only relative.

Sheets made under pressures of about 100 pounds per square inch or less shrink about the same percentage of their wet volume, on drying. As pressure is increased shrinkage decreases, and when plotted against wet solid fraction, quite regular curves are obtained.

Processing the fibers greatly increases the shrinkage at any wet solid fraction and as with resistance to pressing the change is more rapid early in the processing, which the figures tabulated herewith show.

Time in beater, hr.	0	1	2½	4
Green freeness, cc.	590	550	270	85
Shrinkage, per cent	40	55	65	70

Again the fractionated pulp serves somewhat to complicate matters; the long fraction gave a shrinkage of 20 the short fraction 50 per cent. All these values are taken

in the low pressure range where *percentage* shrinkage is constant.

That the forces exerted by evaporating water are ample to cause shrinkage of the sheet has been demonstrated by Campbell (*2*) who also showed how important fiber flexibility and dimensions, especially diameter, are in determining the magnitude of the shrinkage. That is, shrinkage of sheets of processed fibers is greater because they are short, slender, and relatively weak. Obviously two factors are involved here. Large diameter, long fibers will bridge relatively wide gaps, while large diameter short fibers will pack better together. Short slender fibers may pack better than long ones, and if the length-diameter ratio remains fairly constant will also be pulled together more by the water evaporating. The best example of the first effect is the gum pulp, in which the short fraction fibers were about one-half the diameter of the long ones, though only one-twentieth the length, and the shrinkage of the short-fiber sheets was over twice as great as of the long-fiber sheets.

Other Effects

Nothing has so far been said concerning the influence of fiber characteristics and processing on other structural elements than solid fraction. The behavior of fibers of different dimensions and flexibility during the forming of the sheet is a problem of hydraulics. Fiber arrangement is dependent on what takes place in this stage. The characteristics of the air fraction are governed by the factors discussed under the paragraphs on wet solid fraction. That is, for a sheet of a given solid fraction, the porosity for example will depend largely on whether the sheet is composed of large fibers and a few large pores, or small fibers with many fine pores. These differences in air porosity at a constant solid fraction offer one means by which the influence of fiber dimensions on sheet properties can be investigated.

This covers, very briefly, the effects of fiber treatment on sheet structure. The general facts are well known, in a qualitative way. In order to make paper accurately and economically it is logical to demand not only qualitative but quantitative information. Exact information of this type is now almost wholly lacking. There is no reason, however, why it cannot gradually be accumulated. The results will be most useful if those working on the problem keep clearly in mind the several steps outlined. First, fibers have certain inherent properties of materials, structure, and dimensions. Mechanical processing changes the dimensions greatly, the other properties little or none. The structure of a sheet depends on the dimensional properties primarily, and on the sheet forming and processing. Finally, sheet properties depend on structure and fiber properties. This seems the logical way in which to reduce the making of paper to a sound and rational basis.

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Pulpwood*

By Charles W. Boyce[1]

During the past few years the word "pulpwood" has not appeared frequently upon meeting programs. Apparently ample wood supplies have been available to meet the much reduced requirements of the industry. Specific and abstract lack of discussion reflects an absence of worry.

Gradually, however, pulpwood as a discussion subject is coming back. It will not be long, I venture to prophesy, before we will again find pulpwood listed prominently in our meeting programs, for the whole subject of conservation in which the President has expressed a very active interest, is becoming more and more important. The share of the industry in conservation is large.

During the 1920's when pulpwood prices were high, I used to amuse myself by trying to balance the regional spreads in prices with the trends of technical development in pulping. Comparative statistics of regional average pulpwood prices, plus transportation charges of finished paper to common markets, showed spreads that indicated two broad movements at least; that if means of use could be developed, regional shifting was bound to occur that would reduce, if not eliminate, regional price-transportation cost differentials; and that the mere existence of these differentials constituted a powerful urge for the development of the necessary technique. The differentials were so marked that they could not be overlooked, and the shifting process gained momentum almost from day to day, which speaks volumes for the work of the industry's technical staff.

What are the significances of these regional shifts? What are the conditions that affect future shifts? Specific answers are, of course, impossible. We can guess and we can try to anticipate, to gauge the technical and economic drifts.

We do know that pulpwood prices have hit a bottom; they apparently reached their low levels when paper prices appeared to be about to fall to zero in the winter of 1932-1933. Since then there have been increases in all regions. The relation of these increases seems to me to dictate the broad outline of the future pattern.

The percentage of increase has been greater in the low cost regions than in the high cost regions, thus tending toward a reduction of regional differentials. And this indicates that we are dealing with more or less familiar economic phenomena. In other words, the pulpwood problem is not shrouded in mystery. In analysis, at least, it presents an understandable picture compared with the complexities, for instance, of the paper market structure which is, if nothing else, mysterious beyond belief.

In the new producing regions pulpwood and lumber are closely related. It is common knowledge that the lumber industry has suffered tremendously during the depression. Consumption declined from a level of more than thirty billion board feet a year to not much more than ten billion board feet. This condition was reflected back to stumpage prices, for the supply-demand ratio was reversed.

Forest owners, many of them farmers, sought sales outlets; pulpwood seemed to offer possibilities. Little dabs of wood cut here and there created a supply which in the aggregate made it unnecessary for companies to cut on

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their own lands. This wood was produced largely by farmers who were willing to accept any positive return for their labor. Their costs were low, undoubtedly much lower than the cost of operation on company-owned lands and their contribution to the national pulpwood cut was abnormally higher.

As a result the industry has had a respite; for quite a while now it has not had to worry about wood. But as lumber production increases and as general economic conditions improve, it is likely that the supply of independently cut wood will diminish and it is likely that pulpwood operators will demand more for their labor. In these forthcoming adjustments lies, I believe, the pattern of the American pulp and paper industry. The South and the West loom large in this picture, for their large forest supplies seem likely to determine wood values in all regions, and incidentally the price of pulp and paper products.

Stumpage and Transportation Costs

Two major items of pulpwood cost show constant increases from the beginning of pulpwood use up to 1930; one is stumpage price or value of wood in the forest; and the other is the cost of transporting wood from the forest to the mill. In the late 1920's sales of pulpwood reserves at 5 dollars per cord on the stump, or even more, were not uncommon in the older producing regions. As a matter of fact, accrued costs of pulpwood reserves that had been held for relatively long periods amounted to nearly as much for the cost of timberland increases at approximately the rate of seven per cent compound interest because of taxes, interest, cost of fire protection, etc.

Over and above these costs which underlie values, the supply-demand relation was such that actual prices for long periods of time held to substantially higher levels than costs. The industry was overdeveloped, in respect to pulpwood supplies, in the Northeast; much of this overdevelopment had to do with Canadian public land policies. Prior to 1910 many mills were built along the Canadian boundary to use Canadian pulpwood. The embargoes on Crownland wood restricted the supply of these mills and tended to increase the drain upon domestic supplies. Values climbed steadily from the beginning of the century as evidenced by increases in f.o.b. mill pulpwood costs which increased from ranges of from 4 dollars to six dollars per cord in 1900 to levels that were five times those figures shortly after the War. Subsequent declines were slow up to 1930, for demand for wood kept pace with the expanding use of paper. These conditions created abnormally high values for wood reserves, which were reflected in the upward sweep of stumpage prices in the older regions.

Transportation costs from the forests to the mills increased also. This was particularly important in New York State where average charges reached $7.50 with many mills paying as much as 11 dollars per cord freight on imported wood. No such high figures were reached in other regions, but the averages, none the less, rose higher and higher as distances increased.

Both stumpage prices and transportation costs were very much less in the new producing regions. In the South, for instance, a vast supply of young growth was suitable for use in the manufacture of pulp—stands that could not be made into lumber. Moreover, the use of lower grade hemlock logs for lumber in the Pacific Northwest was always of questionable profit; expanded use for pulp did not materially increase values. Even in the highest price periods pulpwood stumpage prices hardly equaled fifty cents per cord in the South, or 1.00 dollar per cord in the West. In both regions transportation costs were correspondingly low. What greater urge could there be for regional shifting if the technology could be solved?

The fact that the industry in flowing to the South and to the West has expanded in these regions to dominating positions, means, I believe, that conditions in these regions will determine future pulpwood prices in all regions. The competition of these new regions in the paper markets must eventually result in the weeding out of high cost pulp mills in the older regions, thus reducing demand to a ratio similar to that in the new regions.

Qualities and transportation costs will play important parts in this adjustment, of course. The realization back to pulpwood in bond and book paper manufacture may be sufficient to maintain higher differentials in the regions where these grades are produced and the lower transportation charges upon paper will certainly be reflected in higher stumpage prices, or in allowable charges for transportation of wood itself. How much differentials will work out in detail is pure guesswork now; but the fact remains that logical regional balances, based upon regional competition in pulp and paper, are in the making. It is safe to guess that the towering prices of the 1920's in New England are not likely to reoccur and that by the same token the low prices of 1932 in the South and West are apt to be the all-time bottoms.

Cost of Reforestation

In all future considerations one factor must be reckoned with; the domestic industry must consider, more and more, the cost of reforestation. The paper and pulp industry has done more reforestation than any other American wood-using industry. The reason is largely that the investment in forest land, although large, is much less than the investment in plant. This is not true in other forest industries. A $200,000 sawmill, for instance, may have back of it $5,000,000 worth of timber; a $5,000,000 paper and pulp mill might have back of it but $1,000,000 worth of timber. The latter industry can more easily afford to invest in reforestation if stumpage values and transportation costs can be stabilized.

But we must look beyond, at other considerations, for much as the industry has done, it is not enough to meet requirements. Many conservationists have reached the conclusion that industry cannot be depended upon to keep forests continuously productive. This has led to a movement that has been gaining impetus in recent years to purchase forest lands and to place them under management at public expense. Appropriations for this purpose are bulking larger each year. As a matter of fact, a combination of conservationists on the one hand, and agriculturists who wish to see marginal farm lands taken out of agriculture, on the other hand, may be able to raise appropriations of federal funds for land purchase to really large figures, of fifty million a year or even more.

Such appropriations raise questions as to policy not only from the point of view of the expenditures themselves and their effect upon taxation, but also from the point of view of governmental control of timberlands. Whether the industry or the government meets the payrolls for reforestation, the price of wood must carry the burden. I do not think that this conclusion can be dodged. The parts that each play in the program are important because future control is at stake. Can the industry afford to permit control of its policies through government ownership of its raw material resources? It appears to me that this and related problems must be settled before long, for governmental purchases are by no means confined to lands that private capital may not only be able to finance, but

that industry-privately financed must own if the industries are to retain their present status.

The President is very much interested in conservation. As Governor of New York State, he sponsored legislation relating to forest resources of that State. As President, he has given to the whole land utilization movement, and particularly to forestry, an impetus such as it has never before received. Under such circumstances, the conservation movement must be taken seriously.

Economic Trends

Obviously, foreign trade in pulp and paper will have a far-reaching effect upon the pulpwood question. In 1923 the Forest Service reported upon the growth of dependence upon imports which in terms of total paper consumption amounted at that time to more than one-half of the domestic total. The report developed the fact that this dependence had grown out of a shortage in the United States of spruce pulpwood, that the original stand of spruce pulpwood was limited; that it was blocked up into company holdings early in the development of the wood pulp industry; and that the reserves had not been sufficient to meet the consumption increases.

After analyzing the development of these dependencies and their trends, the report attempted to answer questions as to how domestic manufacturers could meet the national demand for paper by using domestic materials. An obvious answer was to suggest the development of pulping processes whereby other woods than spruce could be used. The report stated that there were ample supplies of pulpwood of species other than spruce to meet national requirements if methods of use were developed. It stated that to make use of these resources, a regional reallocation of the industry was necessary. It recommended the expansion of manufacture in the South, in the Pacific Northwest and in Alaska. It obviously recommended the adoption of scientific forest management policies.

Recently, in response to the Hale Resolution, the Forest Service has reviewed the whole situation. It found that many of the recommendations of the earlier report have been followed; that regional reallocation is occurring and that there is no reason from the point of view of pulpwood supplies why the United States cannot become self-sufficient in pulp and paper products.

The report considers questions of national policy in respect to foreign trade. Is it wise, it asks, to undertake development of national resources and at the same time take steps to protect this development through restrict measures on imports? It states the conclusion that in view of the necessity for fostering foreign trade, no such deliberate action should be taken, but that the whole problem should be left to economic adjustment through competitive means.

This recommendation comes very close to being a statement of national policy. As such it sets a competitive stage upon which the whole world may play. The drama is likely to be written in terms of pulpwood prices which in the last act must be transplanted into the costs of growing timber itself.

All of the many questions involved in these broad considerations have two chief aspects, the economic and the technical. TAPPI is interested principally in the latter, but the direction of its energies must not be without regard to the economic aspects, for the two must be coordinated. It has been my purpose in this paper to point out this fact.

In conclusion, may I remind you that the economics and technology of raw materials have been the outstanding problems of the industry since its inception in China at the beginning of the Christian Era. Twenty centuries of effort have failed to develop permanent solutions. What our generation may add in effort and in answer is indeed an interesting speculation.

Opportunity for Technical Men in the Paper Industry*

By H. P. Carruth[1]

The paper industry has for many years been in a transitional state as it has evolved from an art toward a science. This trend is clearly indicated by many signs not the least of which is the growth of our own Technical Association of the Pulp and Paper Industry.

Nearly every phase of the industry and all departments of the plant have, in greater or less degree been affected by this trend. Recently conditions under and following the NRA have added impetus to this trend.

Technology in the industry was first given recognition in the fields of civil, mechanical and power house engineering, which was staffed by men trained outside the industry. Later raw material testing created a place for the chemist. As time went on, both engineer and chemist dug in more and more into the more intimate phases of the industry, particularly in the fields of equipment and processes for the operating department. Most recently the technician has begun to be a figure of importance in the merchandising side of the industry. All of these will continue in the future, the latter especially, as the consumers of the industries products more and more recognize the need of a technology of their own, requiring raw materials (paper, ink, etc.) of a predetermined quality. More and more we may look for paper to be purchased on strict specifications covering the actually important properties of the product as applied to specific uses.

To what extent and in what directions does this spell opportunity to the technician? What can he do to line up with this trend in such a manner as will best promote his self interest? This problem is undoubtedly of interest to most of the members of this Association.

I do not propose to attemp a detailed charting of such opportunities or even to cover in a broad way the various angles of approach. What I have to say to you covers only one broad but I believe very important phase of your problem. It relates to a point of view toward your job and your future, which I believe is often unappreciated by technical men, especially in their early years of activity.

Any industry has three major sub-divisions, namely finance, operation, and merchandising. Modern industry also adds research.

* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Ambassador Hotel, Atlantic City, N. J., Sept. 18-21, 1935.

[1] Member TAPPI. President, Dill & Collins, Inc., Philadelphia, Pa.

Technology plays a direct part in all except finance and may exert influence even there. Management must consider and correlate all these factors. The more scientific an industry becomes the more it requires, not only technical specialists, but also technical management.

Management likewise is not technology, it is in its essence human, it deals with things but it deals with them through people and consequently human understanding is most vital in successful management.

The youthful technician, fresh from the University, may begin his contact with the industry in a variety of places, as the control laboratory, the research laboratory, somewhere in an operating department or at the foot of the sales ladder.

Broad Experience Needed

No technical man in his early years can possibly foretell where opportunity may occur. He should therefore avail himself of every chance to secure knowledge about his business, not only of technology, but of all its complex phases. Many engineers feel that the application of engineering procedures to sales, manufacturing or finance would result in simple solutions of all the problems of a business, they fail to appreciate the fundamental importance of psychological factors, which to a large extent determine business problems.

The analytical approach, based on full knowledge of detailed factors, which is to my mind the essence of the scientific method, is extremely valuable in the solution of all problems, but problems in operation, finance, or merchandising, invariably contain factors of human reaction which cannot be determined in exact degree as can be done in the fields usually called technical. The human reactions may, and frequently do outweigh in importance the engineering factors of the problem and the technician has to learn that what people ought to do, under any particular circumstances, and what they will do under those circumstances, are by no means the same thing. Business success very often is determined by how closely one guesses at these intangible factors and the technician is often surprised to find how much sounder guess at these factors is made by some experienced practical man, than is made by himself after he has weighed carefully all the available tangibles in the equation. Too often the technician says "luck" and fails to learn the lesson which he might have learned, that in reality the experience of the practical man in evaluating intangibles and psychologic factors, whether exercised consciously or otherwise, was the real determining factor in the success of his guess.

Much To Learn Not Written in Text Books

Technicians who seek to enter fields of industry other than laboratories and drafting rooms, must realize that they have an immense amount to learn that was never written in their text books, and that this knowledge can be obtained most often from people whom they are inclined to consider "low-brows," because their training has not been academic. The street urchin of the big city knows far more practical psychology at fifteen than many college graduates have learned at twice that age and more than many of them ever learn.

Seek Out Company Problems

There is another very cogent reason why the technician should avail himself of every chance to learn all sides and angles of the business in which he is engaged. Science as applied to industry is a tool to be used by industry in the achievement of its objective which is the making of profits. In consequence, the value of technicians lies in their use of science in the production of profits, rather than of knowledge, it therefore follows that the technician who can best adjust his efforts and knowledge to the profitable advancement of his company, will receive the greatest advancement and reward. To achieve this, an understanding of the aims, limitations, trends and generally all of the influencing factors in his business, is most helpful and is in fact essential. Too often we find the technican devoting his thought and effort to some activity which has captured his personal interest rather than to one which is of genuine financial interest to his firm. Such a man may make a name for himself in scientific circles, may be acclaimed in the technical press, and even be the recipient of medals, but he will seldom be found advancing on the payroll or organization chart of his company. I have known technicians who never seemed able to understand why this was true and who felt that they were unappreciated or discriminated against.

Profits Essential

In this connection, the technician will make no mistake, if he is ambitious for promotion in his company, by keeping always in his mind the fact that his company is fundamentally in existence to make money for its owners, not to make paper or pulp, or dyes or machinery. It therefore will reward those who work toward profits rather than those who work toward fame. There is of course a place, and an important one, for those who seek knowledge for its own sake, such activity may and often is the base upon which great industries are reared and the advancement of the race is largely in their hands, but that isn't business—like it or not.

Relative Values

Following in consequence of this train of thought, the technician serves best in the doing of things which fit the above definitions. For instance:

An improvement, saving $10,000.00 per annum, with no capital investment, is a greater business achievement than one of equal return involving investment of capital.

The invention of a new product which fits the manufacturing and merchandising set-up of the company, is far more valuable to that company, than one which it is not fitted to make or sell.

The method of utilizing profitably some minor by-product of the plant, is more valuable to that company than a much greater improvement applicable to some other fellows business.

Therefore, study your own business, search out materials, methods, products for it that show financial advantage, and if your hunt is successful, you need have no worry about your promotion.

New England TAPPI to Meet

The New England Section of the Technical Association of the Pulp and Paper Industry will meet at the Wahconal Country Club and the Irving House, Dalton, Mass., on Saturday, October 19th.

There will be golf all day at the Country Club and at 6:30 p. m. dinner will be served at the Irving House.

Following the dinner Albert Allen of the Foxboro Company and Frederic C. Clark of Skinner and Sherman Inc., will present a paper on "Control of Drying on Paper Machines and Air Drier."

At each meeting of the New England Section this year, fifteen minutes will be devoted to the discussion of paper products. At this meeting discussion will be on abrasive papers, absorbent papers, acid-proof papers, adding machine papers and address label papers.

Anyone wishing to attend will be welcome to do so.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Drying

The Calculations for an Installation for the Removal of the Air from the Paper Machine Room by Using the Mollier Jx Chart for Moist Air. Friedrich Muller. Wochbl. Papierfabr. 65, Special Number: 3-10 (1934).—The author shows each calculation necessary before designing an installation for the removal of the air from the paper machine room. For conditions in Germany, the average annual figure is 104 heat units or 0.20 kilograms of saturated steam of 3 atmospheres pressure to remove 1 kilogram of water from the paper.—J. F. O.

Drying of Paper Pulps and Drying Plants. W. Schmid, Pappers-Trävarutid. Finland 16, No. 24:1008, 1010 (Dec. 31, 1934).—Description of Austrian patent 137,585 to G. Kienzle, which concerns a cylinder pulp dryer.—C. J. W.

Device for the Pressing Out of Liquids from Mixtures of Solid Substances and Liquids, for Example, a Web of Pulp. Johannes Wiebe, Meissen. Ger. pat. 603,334 (April 7, 1932).—J. F. O.

Drying Process in Which the Material is Exposed to the Action of a Stream of Air or Dry Gas. Benno Schilde Maschinenbau Akt. Ges. Hersfeld, Ger. pat. 601,007 (Jan. 27, 1933); addition to Ger. pat. 589,439.—Means of conducting the drying medium through the drying chamber.—J. F. O.

Condensate Line for Drying Cylinders. C. Rosenblad, Stockholm. Swed. pat. 81,234 (Jan. 27, 1932); addition to pat. 77,627.—J. F. O.

Arrangement for the Drive of Drying Cylinders of Paper Machines. Aktiebolaget Svenska Kullagerfabriken, Gothenburg, Sweden. Czech. pat. 47,591.—The felt dryer is used as the drive for those cylinders connected to the felt.—J. F. O.

De-aerating Device for Drying Apparatus. A. Bol. Svenska Flaktfabriken, Stockholm. Nor. pat. 53,930 (March 10, 1932).—J. F. O.

Suction Box in Combination with a Pair of Press Rolls for the Removal of Water from a Web of Paper or Similar Material. S. H. Hough and J. B. J. Privett, London. Ger. pat. 604,565 (April 22, 1932).—J. F. O.

Drying Plates of Fibrous Material. Gewerkschaft Aufbau. Brit. pat. 416,552 (Sept. 17, 1934).—Fiberboard is heated to the drying temperature by treatment with saturated steam and is then dried by treatment with superheated steam at atmospheric pressure, the steam being recirculated and reheated as desired.—A.P.-C.

Joint for Paper Machine Drier Felts. Michael J. Argy, assignor to Arg. Pre-Heating Corp. U. S. pat. 1,986,785 (Jan. 8, 1935).—The ends of the felt are joined by means of a "zipper" type fastener.—A.P.-C.

Drier Felt. Ezekiel J. Wilson, assignor to F. C. Huyck and Sons. U. S. pat. 1,986,490 (Jan. 1, 1935).—Two canvas sections are secured to the back of a drier felt along the ends of the felt. Hooks formed with loop portions and having oppositely bent end portions are embedded in the fabric of the canvas sections and are so positioned that the loop portions secured to one canvas section overlap those secured to the other section, the end portions of the hooks being disposed at an angle to each other and in slanting directions within the fabric. The loops are connected by means of a pivot pin, and the canvas sections, hooks and pivot pin are covered by a protector felt, the leading edge of which is fastened to the drier felt and canvas section while the rear edge is free.—A.P.-C.

Paper Drier. Herman L. Kutter, assignor to The Black-Clawson Co. U. S. pat. 1,986,977 (Jan. 8, 1935).—The invention provides a convenient and efficient arrangement of drier rolls in vertical-stack driers; more particularly, some of the stacks are placed at a substantially higher level than adjacent ones, so as to leave free areas or spaces suitable for placing machinery (*e.g.*, smoothing rolls) or for removing broke.—A.P.-C.

Suction Apparatus. Francis L. Barstow, assignor to New York Belting and Packing Co. U. S. pat. 1,978,982 (Oct. 30, 1934).—A rubber covering for a suction roll is made in the form of an endless perforated belt having a length considerably in excess of the circumference of the roll. The perforations in the belt are preferably of greater diameter and more numerous than those in the suction-roll shell. Provision is made for tensioning and guiding the belt and for cleaning it by means of a spray or of a compressed air jet.—A.P.-C.

Method of Producing Rubber-Covered Suction Rolls. Hubert G. Welsford, assignor to Dominion Engineering Works, Ltd. U. S. pat. 1,988,640 (Jan. 22, 1935).—A rubber covering is secured around the outer surface of a perforated metal roll by means of a suitable wrapping, sharp-pointed pegs are driven outwardly through the previously drilled holes in the metal shell and through the rubber covering and wrapping, the assembly is subjected to a vulcanizing treatment and the pins are removed.—A. P.-C.

Analytical and Testing

Standard Method for the Determination of Alpha Cellulose. The Total Alkali Soluble, as Well as the Beta and Gamma Cellulose. Committee for the analysis of fiberous materials of the German association of pulp and paper chemists and engineers. Papier-Fabr. 32, No. 51/52: 521-23 (Dec. 23, 1934).—Detailed descriptions and examples of calculations of the methods for the determination of alpha, beta, gamma and total alkali soluble. For alpha cellulose determination, 17.5 per cent sodium hydroxide by weight is used; for alkali soluble (beta and gamma cellulose) the filtrate from the alpha determination is used and treated with potassium bichromate the excess of which is back titrated with ferrous ammonium sulphate; for beta more of the filtrate from the alpha cellulose is used and treated with acetic acid thereby precipitating out the beta cellulose; and the gamma cellulose is determined by using the filtrate from the alpha test, neutralizing and acidifying with acetic acid, filtration of the beta and treating the clear solution with potassium bichromate as above.—J. F. O.

The Determination of Fat in the Ether Extract from

Coniferous Woods. C. G. Schwalbe and G. Just. Wochbl. Papierfabr. 65, Special number: 10-11 (1934).—Pieces of wood the size of matches are extracted with ether in a Soxlet apparatus for 4 hours, after which the ether is distilled off, so that there are 10 to 15 cubic centimeters remaining. The residue is then placed in a watch glass and after the remaining ether has evaporated, the rosin and fat are weighed. The rosin and fat separate on the watch glass and the fat which is in the center is removed with a linen cloth, the watch glass is again weighed to determine the rosin.—J. F. O.

Method for the Determination of the Alcohol Extract and the Dividing-Up of the Rosin Extract into Unsaponifiable, the Fatty Acids and the Resinic Acids. Papier-Fabr. 32, No. 48: 481-82 (Dec. 2, 1934).—Detailed descriptions of the methods for determining the total rosin (alcohol extract), unsaponifiable matter, and the fatty and resinic acids as proposed by the German pulp and paper association.—J. F. O.

Determination of Acidity in Paper. G. C. Chase. PAPER TRADE J. 98, No. 22: 42 (May 31, 1934).—Tests to predetermine paper acidity by measuring the hydrogen-ion concentration of the tray water showed that good results could be obained if this water is heated to the boiling point and cooled to room temperature to complete the ionization and to destroy the buffer action before the pH is determined.—A.P.-C.

The Testing of Paper with the new Tear Tester of Brecht-Imset. Wochbl. Papierfabr. 66, No. 4: 64-68 (Jan. 26, 1935).—The tear tester is fully described, its advantages over other apparata and its value for paper testing since it shows more clearly the materials of which the paper is made and the processing it received.—J. F. O.

Tear Strength and Stretch. Hubert Kienzl. Papier-Fabr. 32, No. 48: 482-84 (Dec. 2, 1934).—The author shows by means of curves the relation between the tear strength and the stretch and states that the tear strength is for most cases not as important as the stretch.—J. F. O.

Several Experiments with the Schopper Torsion Tester for the Determination of the Twisting Number for Cable Paper. R. Korn and C. Boerner. Wochbl. Papierfabr. 65, No. 51: 897-99 (Dec. 22, 1934). — The article describes the apparatus used, most favorable conditions for the test, and all equations and calculations. It was shown that as the thickness of the paper increased the twisting number decreased. Tables of data and illustrations accompanies the article.—J. F. O.

Color, Gloss and Smoothness Measurements of Paper. A. Klughardt. Papier-Fabr. 32, No. 45: 458-61 (Nov. 11, 1934).—General discussion on the different theories of color, gloss and smoothness of paper.—J. F. O.

Paper Inspection Process and Apparatus. Myrl N. Davis, assignor to Paper Patents Co. U. S. 1,991,599 (Feb. 19, 1935).—Variations in the formation of a sheet of paper are determined by illuminating the sheet, inspecting a relatively small area of the sheet by means of a photo-electric cell while effecting a displacement of the sheet, and integrating the variations in the photo-electric circuit caused by the variations in the formation.—A.P.-C.

Gloss Measuring Device. Richard S. Hunter, assignor to Henry A. Gardner. U. S. pat. 1,988,556 (Jan. 22, 1935).—The instrument comprises two elements having diffusely-reflecting surfaces, which are illuminated in such a manner that the relative illumination on the two surfaces can be varied. A standard element having a specular surface is illuminated from one of the diffusely-reflecting surfaces, and the sample to be tested is illuminated from the other; and the relative intensity of light reflected from the standard and from the sample is measured by means of a photometer. In operating the instrument the relative illumination of the diffusely-reflecting surfaces is varied until the intensity of the reflected beams is the same and the position of the means for varying the illumination of the surface is taken as an indication of the gloss of the sample.—A.P.-C.

Means for Measuring the Moisture Content of Paper. Earl J. Haverstick, assignor to Westinghouse Electric and Manufacturing Co. U. S. pat. 1,991,093 (Feb. 12, 1935).—The invention is based on the fact that, within limits of about 4 to 10%, the moisture content of paper is substantially directly proportional to the coefficient of friction between the moving sheet of paper and a block of glass or wood. The latter is placed on the paper web, suitably between the drier and calenders, and is connected by means of a rope or wire to a shaft that is restrained from turning, *e.g.*, by means of a spring. Variations in the moisture content of the sheet and hence in the friction, produce changes in the angular position of the shaft, to which is attached a pointer which moves in front of a graduated dial.—A.P.-C.

Apparatus for Determining Tearing Strength. Lorrel B. Nichols, assignor of one-half to Hollingsworth and Vose Co. U. S. pat. 1,989,625 (Jan. 29, 1935).—A test strip of paper is secured at two areas, which are spaced apart along its straight free edge and which are preferably semi-circular in shape with their centers at the free edge of the paper; progressively increasing tensile stress is applied along the marginal edge of the paper between the centers of the secured areas until initial tearing takes place; the centers and (or) torn edge are then separated by causing or premitting the secured areas to rotate about their centers at a substantially uniform rate. Means are provided for measuring and recording the tensile stresses applied throughout the operation.—A.P.-C.

Specialties

Cigarette Paper. Papier-Ztg. 59, No. 102-103:1756 (Dec. 22, 1934).—A brief description is given of the essential features in the manufacture of cigarette paper. The most important problems are the correct selection of halfstuffs, their chemical pre-treatment and the beating operation.—C. J. W.

Stretching, Curling and Wrinkling of Printing Papers. Papier-Ztg. 60, No. 3: 33-34 (Jan. 9, 1935).—Correct seasoning of paper and cutting all the sheets in the length direction of the web will help to reduce the above troubles. The paper industry is making great efforts to meet the printer's demand for absolutely flat paper as required by modern high-speed printing processes; however, in many instances it is difficult to explain the reason of subsequent paper curling and to ascertain which party is to blame if it does happen.—C. J. W.

Rotary Creasing of Boards. Ose. Papier-Ztg. 59, no. 99: 1710, 1712; no. 100: 1726, 1728; no. 101: 1741-1742; no. 102/103:1758-1760 (Dec. 12, 15, 19, 22, 1934).—The article described the development in the construction of rotary creasing machines and the different types now on the market for creasing solid and corrugated board with or without welt or bulge.—C. J. W.

Physical Properties of Parchment. N. Ya Solechnik. Bumazhnaya Prom. 13, no. 8:24-29 (1934); C. A. 29: 1244.—Commercial parchments show different degrees of transparency to light, depending on the method of production. The fuchsin-permeability and blistering tests are unreliable. The degree of parchmentization of paper is best estimated by the determination of the degree of transparency per unit of thickness with a selenium photoelement. Parchment is opaque in the entire ultra-violet and

in the infra-red spectra. After 2.5 months of exposure to the elements, commercial parchments showed a decrease of tensile strength of 15 per cent in dry state and 30 per cent in wet state, while the transparency increased from 53.5 to 55.5 per cent, which is ascribed to the natural bleaching process. A much higher transparency results by a preliminary mercerization with 18 per cent sodium hydroxide and subsequent treatment with 80 per cent sulphuric acid. Considerable improvement of the physical properties of parchment without affecting its transparency is effected by treating it either with 1 per cent stearic acid in benzene and then with a mixture of 75 benzylcellulose, 10 rosin and 15 per cent tricresyl phosphate in benzene or with linseed oil and drying at 99-100° C. for 3-4 hours. Good results with experimental growing of radishes and lettuce in a parchment-paned conservatory suggest the possibility of substituting parchment for glass in the commercial hot-house cultivation of vegetables.—C. J. W.

Influence of Separate Factors on the Parchmentization and the Properties of Paperboard. F. I. KORCHEMIN and M. E. POMORTZEV. Tzentral. Nauch.-Issledovatel. Inst. Bumazhnoi Prom. Materialui 1934, no. 2:197-214; C. A. 29:1633.—The influence of single factors on the production of fiberboard was studied by changing one factor at a time in the following standard procedure. Impregnation in zinc chloride, density 1.96 at 25°, at 65° for 4 seconds, calendering at 50° for six minutes at 40 r. p. m., followed by the usual reworking and tests. With an increase of the temperature of the zinc chloride solution from 25° to 80° C., the impregnation results in a board with a greater density, an increased mechanical interception of zinc chloride solution, which makes necessary a more prolonged calendering of paper and a decreased penetration of the paper, because of the rapid superficial parchmentization with closing of the paper pores. With the concentration of zinc chloride solution increased from a density of 1.86 to 2.01 the degree of mechanical interception of the solution by paper is decreased, which also requires a longer calendering, the temporary resistance to tearing is increased and the absorption of zinc chloride into the inner layers of the paper is decreased. With the prolonged impregnation, the amount of mechanically intercepted zinc chloride in the paper is increased. Insufficient calendering of fiberboard causes wrinkling and blistering in washing, while excessive calendering has no advantage. With the increased temperature of the forming cylinder, the required time of calendering is reduced and the density, width, length and resistance to tearing of the paperboard are decreased. The electric properties of a paperboard depend chiefly on the purity of the product and very little on the conditions of parchmentization.—C. J. W.

Production of Fire-resisting Paper. Z. UCHASTKINA. Bumazhnaya Prom. 13, nos. 10-11:65-69 (1934); C. A. 29:1633. A general discussion with methods and recipes for fire-proofing of paper.—C. J. W.

Money Paper. G. B. Miliani. Chim. ind. agr. biol. 10:443-447 (1934); C. A. 29:1633.—Historical review of the manufacture of money paper.—C. J. W.

Printing Paper of the Reduced Density of 35-40 g./sq. m. V. A. GRABOVSKII, P. V. SHUMILOV and M. YA. MARSHAK. Tzentral. Nauch.-Issle-dovatel. Inst. Bumazhnoi Prom. Materialui 1934, no. 2:53-87; C. A. 29:1632. A printing paper of 40 g./sq. m., comparable in quality with the Soviet Union and foreign India and Bible paper, was obtained in the laboratory by using 100 per cent half-bleached sulphite pulp of 50-65° hardness and 45° freeness by filling with 40 per cent kaolin and heavily sizing.—C. J. W.

Process for the Protection of Vegetable Fibers in Osmotic Diaphragms. Leonardo Cerini, Castellanza, Italy. Finn. pat. 15,854 (April 23, 1932).—The vegetable fibers are treated with salt solutions of the earth metals in order to partially change them into the corresponding hydrocellulose. A rosin solution is then used whereby an organic colloid compound is formed with the metallic salt.—J. F. O.

Flask Container Made from Board. Rena Kartonfabrik A/s, Norway. Finn. pat. 15,784 (Dec. 9, 1932).—J. F O.

Noise Dampening Intermediate Layer for Roofs and Walls. R. Doorentz, Leipzig. Nor. pat. 53,941 (Nov. 27, 1931).—Board of various materials is separated by a layer of air.—J. F. O.

Process for the Manufacture of Seamless Tubes or Other Shaped Bodies from Fiberous Materials, Especially from Asbestos or Pulp, Through Pressing Under High Pressure. C. Mastrangelo, Genoa, Italy. Swed. pat. 80, 774 (Dec. 8, 1931).—The fiberous materials are mixed with a small quantity of plastic binding substance easy to oxidize, and then heated and subjected to high pressures.—J. F. O.

Process for the Impregnation of Webs of Paper. Bielefelder Sackfabrik G.m.b.H., Bielefelder. Ger. pat. 600, 582 (July 23, 1933).—Metallic soaps, prepared from the residue products of unsaturated oils, fats or fatty acids are used to impregnate the paper, and afterwards or during the process the material is treated with formaldehyde.—J. F. O.

Process for the Manufacture of Water-proof Fiberous Webs. Fritz Fuchs, Vienna. Ger. pat. 602,487 (March 18, 1930).—Two parts of varnish is heated to about 150 to 180°C. with one part of diminuted vulcanized rubber until the whole is uniformly dissolved. This causes a great change in the character of the caoutchouc particles.—J. F. O.

Dry Gumming Paper. Firma Otto Schob, Berlin. Ger. pat. 603, 200 (Jan. 18, 1930).—The adhesive layer consists only of latex but it is separated from the paper base by means of protective layer, preferably glue.—J. F. O.

Process for the Manufacture of Building Boards from Fiberous Materials. Fibroplast Akt. Ges., Schaffhausen, Switzerland. Ger. pat. 601, 593 (Feb. 27, 1932).—The screenings from the manufacture of paper and board are used as the raw material, stock with a Schopper Rieger number of 15 to 20 is most suitable.—J. F. O.

Security of Ink Writing on Paper Against Illegal Changes. Hans Wrede. Wochbl. Papierfabr. 65, Special Number: 37-40 (1934).—The author first tells of how illegal changes have been made on paper written with ink, passports, checks, etc. In order to prevent this practice, the kinds of paper and the type of ink to be chosen are discussed. The composition of the various ink removers are also given.—J. F. O.

Process for the Manufacture of Paper Crepped the Long Direction. Hermann Rosenfeld, Mannheim. Ger. pat. 601, 341 (Dec. 22, 1931).—The paper is crepped in stages by pushing the paper web together perpendicular to the machine direction.—J. F. O.

Light Building Boards Containing Wood. Edgar Morath. Wochbl, Papier-fabr. 65, Special Number: 25-29 (1934).—The author briefly traces the history of building boards of wood from such an early date as 1772 up to the present day. Then methods of manufacture for both the single and multiple layer boards, raw materials, their treatment, etc. And in conclusion, the Masonite process is described in detail.—J. F. O.

Manufacture of Water-Laid Felts. George A. Richter, assignor to Brown Co. U. S. pat. 1,987,213 (Jan. 8, 1935).—Highly absorbent felts suitable for impregnation are obtained from rags that have been treated with mercerizing liquor for a sufficient period of time to mercerize the cellulose and thus render it non-hydratable in the course of reduction to halfstuff in the beater.—A.P.-C.

Method of Making Laminated Paper. Lloyd L. Dodge, assignor to Rhinelander Paper Co. U. S. pat. 1,986,961 (Jan. 8, 1935).—In making a highly calendered, relatively transparent laminated sheet of paper, the individual plies of paper are not separately calendered, but are first combined into a laminated sheet which is then calendered.—A.P.-C.

Method and Apparatus for Reducing the Bulk of Stacks of Paper Sheets and Softening Said Sheets. Courtney P. Winter and Dunbar A. Rosenthal, assignors to United States Paper Mills, Inc. U. S. pat. 1,989,048 (Jan. 22, 1935).—Stacks of paper towels, toilet paper sheets, paper napkins, etc., are subjected to a number of blows of gradually increasing pressure until the maximum pressure is reached, the stack being held in such a manner as to prevent distortion during the hammering.—A.P.-C.

Composite Wrapping Material. John P. Sherman. U. S. pat. 1,984,814 (Dec. 18, 1934).—A highly porous paper web is saturated with molten asphalt weighing at least twice the weight of the paper, reinforcing threads are applied and both surfaces are covered with paper, preferably kraft.—A.P.-C.

Opaque Paper. Albert G. Natwick, Henry E. Ostenson and William R. Barber, assignors to Crown Willamette Paper Co. U. S. pat. 1,988,179 (Jan. 15, 1935).—In order to obtain an opaque waxing paper that will be similar to coated paper, enough suction boxes are used to bring the sheet to a dryness of at least 5 per cent; a suspension of pigment in water (preferably about 0.2 to 0.3 lb. per gal.) is sprayed at an angle on the descending side of the dandy roll (which should have a 50-mesh wire covering), the amount being regulated so that the sheet is brought to a dryness of about 2.5 per cent. Further suction boxes are provided between the dandy and couch rolls to bring the sheet back to a dryness of 5 per cent.—A.P.-C.

Laminated Paper Board and Container Made Therefrom. Samuel Bergstein. U. S. pat. 1,987,225, (Jan. 8, 1935).—Defects present in ordinary laminated boxboards are overcome by using an ordinary laminated chip board paper stock as base, glassine as the surfacing ply, and an adhesive containing latex to unite the two.—A.P.-C.

Composition Roofing Material. Wallace C. Fischer. U. S. pat. 1,984,922 (Dec. 18, 1934).—A base of crude unvulcanized rubber is softened in a suitable oil such as petroleum, kerosene or light lubricating oil; resinous matter or polymerized oil is added by kneading hot. The material may then be either mixed with an inert filler and used as a coating for impregnated material, or it may be thinned with a solvent such as linseed oil or naphthalene and used for saturating roofing felt.—A.P.-C.

Paper and Method of Making the Same. Ralph A. Hayward, assignor to Kalamazoo Vegetable Parchment Co. U. S. pat. 1,987,901 (Jan. 15, 1935).—Substantially opaque paper which retains its opacity even when waxed is produced by applying to both sides of a substantially dry web of all-sulphite paper a coating of filler in colloidal suspension (*e.g.*, clay or lithopone in gum arabic solution, etc.), passing through a heavily loaded press, and drying.—A.P.-C.

Paper Making. Charles L. Goessmann. U. S. pat. 1,987,930 (Jan. 15, 1935).—Raw stock paper is impregnated with a heated solution of colloidal protein matter in a suitable solvent (*e.g.*, glue, casein, etc., dissolved in water), rolled on a mandrel or drum till the desired number of layers has been built up, squeezed to remove excess solution, jelled as by immersing in sold water, treated with a fixing or coagulating agent (*e.g.*, formaldehyde, chrome salts, tannins, etc.), and dried without pressure. If the final product is to be in tubular form, it is preferably dried on the mandrel; if it is to be in sheet form, it is slit, removed from the drum, pressed flat and dried.—A.P.-C.

Waxed Wrapping Paper. Nashua Gummed and Coated Paper Co. Brit. pat. 416,745 (Sept. 20, 1934).—A product of substantial opacity and high gloss comprises a body of paper stock associated with material of substantially different refractive properties such as "titanox" and treated with colorless wax.—A.P.-C.

Utilization of Bagasse. III. Physical Properties of Cellotex. I. Thermal Conductivity. H. Kato. J. Cellulose Inst. Tokyo 10: 312-315 (1934).—The thermal conductivity of cellotex compared with that of wood shows that it is suitable for use in buildings as a heat-insulation medium.—A.P.-C.

Relative Permanence of Papers Exposed to Sunlight. George A. Richter. Ind. Eng. Chem. 27: 177-185 (Feb., 1935).—A report on the results of the exposure of a large number of commercial and specially prepared papers to Florida sunlight, including a preliminary attempt to correlate physical degradation with chemical oxidation. The study included a search for means to retard the spoilage of paper exposed to light by providing suitable protection, either by additions of chemicals and special sizing agents or by physical protection (coverage).—A.P.-C.

Humidity-Resistance Relations in Carbon-Coated Hygroscopic Materials. L. A. Welo. Nature 134: 936 (1934).—Carbon-coated hygroscopic materials, such as paper, cellophane and human hair, show an increase in electrical conductivity on drying. This is attributed to the closer and more numerous carbon contacts resulting from shrinkage.—A.P.-C.

Manufacture of Waterproof and Oilproof Material for Wrappers or Containers. E. I. DuPont de Nemours and Co. Brit. pat. 421,649 (June 28, 1933).—Containers for oily or aqueous substances, such as lubricating oil, paint, milk, etc., can be made from paper, jute, etc., coated with a molten, substantially saturated fatty acid derivative having a melting-point higher than 50°C., *e.g.*, hydrogenated castor oil, blown hydrogenated tung oil. Softeners, such as linseed oil, may also be incorporated.—A.P.-C.

Treatment of Papers and Fabrics for Use in Photographic Printing. J. Halden and Co., Ltd., and J. Holden. Brit. pat. 418,976 (March 4, 1933).—The materials are treated, after sensitizing, with a waterproofing substance (paraffin wax, chlorinated rubber, cellulose esters, in suitable solvents, or fluid molten wax), whereby they can be preserved in a dry condition and subsequently printed and developed without becoming soaked with water.—A.P.-C.

Manufacture of Abrasive Smoothing or Polishing Cloths, Paper, Etc. Deutsche Gold-Und Silberscheideanstalt vorm Roessler. Brit. pat. 420,912 (June 6, 1933).—The abrasive particles are bound to the surface by a spongy layer of caoutchouc. In addition to the abrasive, the latex dispersion contains filling and vulcanizing agents and a material, *e.g.*, ammonium carbonate, hydrogen peroxide, etc., which evolves gas during the hardening process and so produces sponginess. The rate of gas evolution may be controlled by catalysts such as manganese dioxide.—A.P.-C.

Manufacture of Waterproof Compound Paper, Card-

board, and the Like. H. Hestnes. Brit. pat. 422,148 (Dec. 13, 1933).—Layers of board or paper are cemented together with a thick (75 g. per sq. m.) adhesive layer of rubber latex, the adhesive powers of which may be increased by small additions of wood tar, resin, mineral oils, etc., or partly decomposed latex. The latex is applied as a concentrated solution (about 55 per cent) and is finally air-dried.—A.P.-C.

Security Paper. Waterlow and Sons Ltd., and Sydney G. Clifford. Brit. pat. 417,488 (Oct. 5, 1934).—Addition to No. 292,393.—The method of the main patent is modified in that a water-insoluble, fluorescent substance is applied on or incorporated into paper for bank notes, bonds, etc., to render the paper, or parts thereof, fluorescent when viewed by filtered ultra-violet light. The substance may comprise a 10 per cent suspension of fluorene, acridine or the zinc complex of either 8-hydroxyquinoline or 8-hydroxyquinoline potassium sulphate.—A.P.-C.

Preparation of Plastics from Groundwood Pulp. L. Lowen and H. K. Benson. IND. ENG. CHEM. 26: 1273 (Dec., 1934).—Ground wood pulp affords a cheap material suitable for the formation of resinous condensation products with phenols. The products obtained have electrical properties at least as good as those of commonly used materials and superior to those of asbestos or celluloid; they are not highly resistant to boiling water and are slightly brittle.—A.P.-C.

Wall Paper. Albert C. Knight. U. S. pat. 1,990,701 (Feb. 12, 1935).—Moist adhesive is applied to the back of a web or strip of wall paper, and a somewhat wider strip of an adhesive-resistant protective paper (*e.g.*, oiled or paraffined paper) is applied thereto, and the combined sheets are wound into rolls. If desired, two sheets of wall paper may be superposed with their printed sides exposed and a protective, adhesive-resistant sheet interposed between the adhesive-coated surfaces.—A.P.-C.

Method of Making Sealing and Reinforcing Tapes. William W. McLaurin. U. S. pat. 1,989,875 (Feb. 5, 1935).—An asphaltic emulsion, to which may have been added glue in amounts up to about 30 per cent of the weight of solid asphalt, is applied to one side of a web or strip of paper or fabric, the material is dried by passing around a heated roll, and the coating is set and rendered non-tacky by passing around a chilling roll.—A.P.-C.

Copperized Pear Wrap Paper. William R. Barber, Albert G. Natwick and Maurice W. Phelps, assignors to Crown Williamette Paper Co. U. S. pat. 1,988,231 (Jan. 15, 1935).—In a lignin-bearing pulp (*e.g.*, unbleached wood pulp) a complex lignin salt is developed by the addition of an acid-forming reagent (*e.g.*, hypochlorite bleach, used in amount sufficient to produce about two-thirds full bleach), and copper sulphate is added to effect a precipitation of copper on the fiber. If bleached fiber is used, a suitable amount of chlorinated waste liquor is added, followed by the copper sulphate.—A.P.-C.

Laminated Sheet Material. Allen Abrams. Paul L. Anthony, George J. Brabender and Winfred H. Graebner, assignors to Marathon Paper Mills Co. U. S. pat. 1,986,954 (Jan. 8, 1935).—A laminated, moisture-, water- and grease-proof fiber board specially suited for making cartons for frozen food products is produced by applying a moistureproof (or relatively so) lacquer or varnish (preferably of the nitrocellulose type) to one side of a sheet such as grease-proof or glassine paper, and securing the other side thereof to a fiber board base by means of an adhesive which is free from odor on drying, preferably a water-vehicle adhesive such as glue, starch, casein, etc. —A.P.-C.

Waterproof Sheet and Process of Making the Same. Lester Kirschbraun, assignor to The Patent and Licensing Corp. U. S. pat. 1,988,126 (Jan. 15, 1935).—Rubber is fluxed with a bituminous material (asphalt, tar, pitch, etc.) on calender rolls in the usual way. The mixture is added while in a more or less heated plastic condition to a warm (about 180°F.) relatively stiff paste of colloidal clay and water in a suitable kneader. The mixture is thinned with water and the resultant emulsion is mixed with paper stock (preferably formed from cotton stalks) and made into paper.—A.P.-C.

Manufacture of Artificial Leather. Milton O. Schur, assignor to Brown Co. U. S. pat. 1,986,367 (Jan. 1, 1935). —An artificial leather which is easily pervious to water vapor and hence possesses "breathing" qualities is made by impregnating an absorbent felt with rubber latex containing a small proportion of viscose, and drying. The finished product contains not more than 1 per cent viscose (calculated as cellulose) and not less than 45 per cent of rubber.—A.P.-C.

Creeping Paper in the Longitudinal Direction. Hermann Rosenfeld. U. S. pat. 1,986,070 (Jan. 1, 1935).—The drawbacks of former methods of longitudinal creping are eliminated by forming the creping creases progressively and preferably stepwise, the creping or creasing pressure being exerted only on a comparatively small portion of the paper at a time. The paper may also be creped transversely by one of the usual methods.—A.P.-C.

Manufacture of Absorbent Water-Laid Webs of Felted Fiber. Milton O. Schur, assignor to Brown Co. U. S. pat. 1,986,291 (Jan. 1, 1935).—To obtain a highly porous and absorbent sheet, particularly suitable for impregnation, *e.g.*, with asphalt, a suitable surface-tension-reducing reagent (preferably a water-soluble one such as ammonium oleate or other soap) is added to the stock at any stage of its transformation into webs or felts, but before drying.—A.P.-C.

Food Containers of Laminated Paper. John Olson. U. S. pat. 1,979,992 (Nov. 6, 1934).—A number of paper laminations are permeated and bound together by an oil-impregnated casein glue.—A.P.-C.

Manufacture of Vulcanized Fiber. John K. Anthony, assignor to Horace B. Fay. U. S. pat. 1,988,441 (Jan. 22, 1935).—A number of paper webs are vulcanized by passing through suitable baths (*e.g.*, zinc chloride), washed to remove excess of vulcanizing reagent, surplus water is eliminated, and the several plies are united by means of an intersposed bonding agent such as cuprammonium solution, protein agents, alcohol solution of shellac or other resins, phenol-aldehyde or other synthetic resins, etc.—A.P.-C.

Process and Apparatus for Making Laminated Vulcanized Fiber. William M. Shoemaker, Jr., assignor to National Vulcanized Fibre Co. U. S. pat. 1,988,340 (Jan. 15, 1935).—A number of rolls of paper corresponding to the number of plies in the finished product are mounted on a common frame. Each web is passed through an individual vulcanizing bath (*e.g.*, of zinc chloride) and between a pair of press rolls, the web passing around a considerable portion of the top roll, which is heated. The successive plies are superposed at the succeeding presses, the first ply being joined to the second at the press of the second web, this two-ply web in turn being combined to the third ply at the third press, and so on. The built-up web is passed through a suitable series of washing tanks. —A.P.-C.

Drying Sized Molded Pulp Articles. Merle P. Chaplin, assignor to Keyes Fiber Co., Inc. U. S. pat. 1,988,161 (Jan. 15, 1935).—A sized pulp stock is deposited by suction on a perforated die. A heated die is placed over

the article to dry it while suction is applied to the other side.—A.P.-C.

Composition of Matter and Process of Preparing the Same. Roger B. Hill, assignor to Brown Co. U. S. pat. 1,986,341 (Jan. 1, 1935).—Dry wood pulp (preferably of high alpha-cellulose content) is ground dry in a ball mill to a fineness of 40- to 200-mesh, and a small proportion (0.25 to 2 per cent based on the weight of powdered cellulose) of a waxy substance (*e.g.*, carnauba wax, stearic acid, Montan wax, etc.) is added as lubricant. The material is used as a filler in rubber compounding.—A.P.-C.

Stencil Sheet and Method of Making Same. Harmon P. Elliott, assignor to The Elliott Addressing Machine Co. U. S. pat. 1,990,535 (Feb. 12, 1935).—A yoshino paper base that has been coated with a cellulose ester is given a backing film of a shellac-like composition.—A.P.-C.

Colored Prepared Roofing. Paul S. Denning, assignor to Frederic E. Schundler. U. S. pat. 1,994,066 (March 12, 1935).—A prepared roofing of impregnated, coated and grit-surfaced felt is given, over its entire surface, a thin adherent coating consisting only of color pigment and a resin in a solvent of denatured alcohol and containing no petroleum derivatives.—A.P.-C.

Roofing Element. Lester Kirschbraun and Otto A. Heppes, assignors to The Patent and Licensing Corp. U. S. pat. 1,989,554 (Jan. 29, 1935).—The roofing element is of stepped or variable thickness, being formed of impregnated roofing felt to which are applied a number of coatings of asphalt of different widths, each extending from the butt edge to different distances therefrom.—A.P.-C.

Process for Increasing the Moistureproof Qualities of Sheets of Organic Matter. Richard Weingand and Josef Seiberlich. U. S. pat. 1,988,099 (Jan. 15, 1935).—A mixture consisting of cellulose derivative, resin, plastifier and wax (the cellulose derivative being in a minor proportion relatively to the resin and wax) is melted and applied while in a molten condition to a structureless sheet such as parchment paper.—A.P.-C.

Paper Manufacture. Edward K. Lum, assignor to The Beckett Paper Co. U. S. pat. 1,990,994 (Feb. 12, 1935).—At a convenient point in the process of manufacture, preferably in the second drier section after the size tub, suitable markings are printed with a solution (suitably 2 per cent manganese chloride) that makes a marking that is normally invisible but is revealed by treating with alkali or an oxidizing bleaching agent.—A.P.-C.

Paper and Method of Making the Same. Carlton J. O'Neil, assignor to Johns-Manville Corp. U. S. pat. 1,989,709 (Feb. 5, 1935).—Not more than 4 per cent (and preferably between 0.5 to 2 per cent of finely divided diatmoaceous earth (which may have been calcined) is added to the furnish. This is claimed to eliminate pitch troubles.—A.P.-C.

Hood Caps for Milk Bottles. Carlton Ellis, assignor to Ellis-Foster Co. U. S. pat. 1,987,288 (Jan. 8, 1935).—Hood caps are formed of paper carrying a composition binder containing a component having peeling properties such as carnabuba wax and a component having antifouling, adhesion-producing properties such as rosin and paraffin or the like.—A.P.-C.

Paper Wadding. William R. Kellett, assignor to Paper Patents Co. U. S. pat. 1,992,215 (Feb. 26, 1935).—In the manufacture of wadding by winding a sheet of creped tissue on a reel to the desired thickness, cutting longitudinally and dividing into strips of desired widths, relatively minute spaced droplets of a suitable adhesive solution are applied to one surface of the creped tissue as it is being wound.—A.P.-C.

Process for Fireproofing Cellulosic Materials. Martin Leatherman. U. S. pat. 1,990,292 (Feb. 5, 1935).—Cellulosic material is flame— and glow-proofed by impregnating with sodium stannate, drying, immersing in an aqueous solution of a salt or salts of at least one of the following: iron, chromium, copper, titanium, nickel, cadmium, aluminum, vanadium, stannous or stannic tin; washing to remove acid residues, impregnating with chlorinated rubber, and incorporating coloring matter into the material.—A.P.-C.

Paper and Method of Making Same. Lloyd L. Dodge, assignor to Rhinelander Paper Co. U. S. pat. 1,992,996 (March 5, 1935).—A relatively transparent soft sheet of waxing paper is obtained by forming a sheet of paper (preferably on a Yankee machine) from bleached chemical pulp that has been mediumly well hydrated (insufficiently to render it greaseproof), plasticizing the paper with from 2.5 to 10 per cent of a deliquescent substance (glycerin, corn sugar, etc.), drying the plasticized paper, moistening, and supercalendering the moistened paper.—A.P.-C.

Manufacture of Abrasive Paper. Harry C. Martin, assignor to The Carborundum Co. U. S. pat. 1,994,283 (March 12, 1935).—In order to obtain an open-coated abrasive paper that will remain flat or assume a curvature such that the abrasive-coated side is convex, a contractile coating of glue is applied to the back of the paper.—A.P.-C.

Paper Manufacture. Benjamin F. Perkins. U. S. pat. 1,994,435 (March 12, 1935).—Paper suitable for use in the manufacture of artificial flowers, and having a velvety surface of one side and a sheen on the other, is obtained by securing together a sheet of velour paper and a sheet of glazed paper, and creping the combined sheet.—A.P.-C.

Specialty Paper. George A. Richter, assignor to Brown Co. U. S. pat. 1,989,885 (Feb. 5, 1935).—The wet strength of paper for towels, etc., is increased by passing a porous sheet through a bath of cellulose derivative (*e.g.*, viscose) so that the amount absorbed (calculated as dry regenerated cellulose) will be between 0.5 per cent and 2 per cent of the weight of the paper. High absorptiveness is maintained by applying to both sides of the impregnated paper either a layer of loose fluffy fibers or sheets of soft absorbent paper.—A.P.-C.

Laminated Product and Method of Making the Same. George W. Seymour, assignor to Celanese Corporation of America. U. S. pat. 1,990,098 (Feb. 5, 1935).—A film or foil of cellulose acetate is applied to a sheet of paper by means of methylene ethers of polyhydric alcohol.—A.P.-C.

Paper Roll Package. Victor Olson. U. S. pat. 1,993,853 (March 12, 1935).—A protective end plate of diameter at least equal to that of the roll is applied to each end of the roll and suitably held in place, *e.g.*, by crossed straps passing across the end plates. Under the lower end of the roll, a supporting plate of appreciably smaller diameter is secured centrally to the under side of the end plate.—A.P.-C.

Waterproof Fibrous Tubing and Method of Making the Same. Howard Parker, assignor to Brown Co. U. S. pat. 1,990,248 (Feb. 5, 1935).—A number of strips of paper are wound helically into the form of laminated tubing, molten water-proofing material (*e.g.*, asphalt or pitch) is applied between the plies during the winding to stick them together, and metallic fasteners are driven through a number of the outermost layers of the tube. The tube is cut into sections which are immersed in a bath of molten waterproofing material.—A.P.-C.

Machinery

Recent Improvements on the Fourdrinier. Karl Bachmann, Heidenheim, Wochbl. Papierfabr. 66, No. 1: 4-6; No. 2: 27-29; and No. 3: 47 (Jan. 5-19, 1935).—The author describes fully recent improvements on the fourdrinier which are manufactured by Firma J. M. Voith. These include, stock consistency regulator, the swinging stock inlet, improvements in the shake device, suction rolls and suction presses, wire guide, and a device for the quick change of wires. Illustrations and drawings accompanies the article.—J.F.O.

Press Rolls for the Pressing of Wet Bark. A/S Myrens Verksted, Oslo. Nor. pat. 53,801 (Dec. 29, 1932).—The top roll is made of a pliable material and the bottom roll a rigid material. The bottom roll is provided with spirals so arranged that the bark is pushed toward the center of the rolls.—J.F.O.

Press Rolls for the De-watering of Bark, Raw Peat, Pulp and Similar Materials. K. G. Hellner and A. G. Johansson, Nalden. Swed. pat. 81,292 (June 22, 1932).—The press rolls are provided with grooves so arranged that the material is forced toward the edges of the rolls.—J.F.O.

Drive Arrangement for Paper Machines with Single Motor Drive for the Drying Cylinders. The Harland Engineering Co., Ltd., London. Swed. pat. 81,336 (Dec. 11, 1928).—J.F.O.

Device for the Removal of the Bark from Tree Trunks. Jakob Honig, Wiesbaden. Ger. pat. 602,345 (May 5, 1932).—The motor driven knives are arranged tangentially, thus effecting a saving of power and a cleaner removal of the bark.—J.F.O.

Device for Screening Fiberous Materials in the Manufacture of Paper. Escher Wyss Maschinenfabrik G.m.b.H., Ravensburg. Ger. pat. 577,396 (July 31, 1931).—A screen with a corrugated surface, the corrugation running horizontally, is placed at an incline. The stock starts at the top of the screen and flows over the corrugations, the accepted stock is collected underneath the screen at the bottom of the incline.—J.F.O.

Concerning the Barking of Wood. D. Kruger. Papier-Fabr. 31, No. 27: 383-86 (July 2, 1933).—A discussion of the many questions arising when barking methods are compared.—J.F.O.

Process and Device for the Preparation of Designs on Wet Paper, Board and Similar Webs. Gebr. Palm, Neukochen. Ger. pat. 575,815 (April 4, 1930).—The color for the design is imparted onto the paper, not in the form of a liquid but in the form of a fine dust.—J.F.O.

Save-all for the Separation of Materials from Flowing Liquids, Especially for the Manufacture of Paper and Similar Materials. August Heinrich Popp, Radebeul. Ger. pat. 577,239 (Dec. 13, 1927).—A conical tank with an especially arranged trough.—J.F.O.

Cores in the Manufacture of Paper. Wochbl. Papierfabr. 65, No. 51: 902 (Dec. 22, 1934).—Discussion of the various types of cores with their advantages and disadvantages over each other.—J.F.O.

Device for the Shake of a Fourdrinier. E. Larsson and E. Pettersson, Appelviken. Swed. pat. 80,798 (Jan. 18, 1933).—The shake consists principally of an eccentric and a specially designed linking arm.—J.F.O.

Device for the Separation of Solid and Liquid Particles from Gases and Vapors. Zellstofffabrik Waldhof, Mannheim. Finn. pat. 15,898 (April 1, 1933).—The invention consists of an enclosed cylinder with spirally shaped conducting vanes so as to give the gases opportunity to separate from the solid and liquid particles by means of centrifugal force.—J. F. O.

Device for the Dissolving and De-Fibering of Non-Metallic Material for the Manufacture of Paper. August Aeldert, Dusseldorf. Ger. pat. 604,733 (Aug. 20, 1933).—J.F.O.

Method for the Treatment of Paper Machine Felts, Felt Rolls or Felt Hose. Deutsche Bekleidungsindustrie G.m.b.H., Potsdam. Ger. pat. 604,499 (Jan. 7, 1932).—It has been found that the cause for the deterioration of felts is due to the sulphuric acid which forms from the hydrolytic splitting off from the alum used in the sizing. To prevent this, the side of the felt coming in connection with the paper is sprayed or dusted with an acid binding material.—J.F.O.

Washing Device for the Wet Felts on a Paper Machine. Slowakische Papierfabriks A.G. Ruzomberok, Slowakia. Czech. pat. 47,127—J.F.O.

Centrifugal Pump with Spiral Shaped Impellor for Conveying Thick Stock. K. Moerch, Fredrikstad. Nor. pat. 53,832 (Dec. 5, 1932).—J.F.O.

Rewinder, for Paper. J. H. A. Kruimel, Bloemendaal, Netherlands. Finn. pat. 15,832 (Aug. 25, 1932).—J.F.O.

Drives for the Paper and Pulp Industries. Fritz Hoyer. Papier-Fabr. 32, No. 49: 504-08 (Dec. 9, 1934).—Detailed description of motors and reduction gear units used for the drives in the paper and pulp industries.—J.F.O.

Reel Stand for the Winding of Paper, Board and Similar Webs. Zellstofffabrik Waldhof, Mannheim. Finn. pat. 15,767 (Sept. 10, 1932).—J.F.O.

Device for the Shake for Fourdrinier Wires. E. Larsson and E. Pettersson, Aeppelviken. Swed. pat. 73,506 (Oct. 4, 1930).—J.F.O.

Electrical Multiple Motor Drive for Paper Machines. Siemens Schuckertwerke Akt. Ges., Berlin. Ger. pat. 602,429 (Jan. 1, 1930).—J.F.O.

Brush Moisture Apparatus for Paper and Similar Materials. Goebel A. G., Darmstadt. Ger. pat. 603,679 (March 9, 1933).—J.F.O.

Device for the Atomizing of Liquids. Orion Maschinen und Apparatebau G.m.b.H., Dusseldorf. Ger. pat. 603,056 (Feb. 10, 1933).—Compressed air or compressed gases are used in a specially designed nozzle.—J.F.O.

Process and Device for the Treatment of Webs of Sensitive Materials Such as Webs of Paper, Films, etc. with Liquids or Gases. W. zur Lowen, Wuppertal. Ger. pat. 601,819 (Nov. 12, 1932).—J.F.O.

Process and Device for Measuring the Liquid Permeability of Materials Such as Paper and Webs. Georges Aimot, Jory Centre, France. Ger. pat. 602,150 (March 8, 1932).—The material to be tested is subjected to a colored testing liquid, and at a certain pressure and duration; at the end of which the intensity of the color coming through is measured photo-electrically.—J.F.O.

Bark-Press Cylinder. Michael J. Power. U. S. pat. 1,990,839 (Feb. 12, 1935).—The press cylinder is built up of standardized elements, the length of the cylinder being varied by using a greater or less number of units, and the dimensions of the openings for allowing escape of the water being varied by spacing the units closer or farther apart.—A.P.-C.

Pulp Thickener. Paul O. Hass. U. S. pat. 1,993,214 (March 5, 1935).—The apparatus comprises an upright conical chamber with screen walls, discharging the partially thickened stock into a horizontal cylindrical passage in which is a helical conveyor that forces the stock towards the outlet of the passage. The outlet is closed

by a heavily weighted valve, so that the stock is discharged when the pressure inside the passage has been built up sufficiently to overcome the load on the valve, this pressure corresponding to a definite consistency.—A.P.-C.

Pulp Screen. Nelson M. Knight. U. S. pat. 1,990,288 (Feb. 5, 1935).—A stationary cylindrical screening drum is provided with a plunger element shaped as a double cone joined at their apexes. A screened-pulp outlet is provided at each end of the drum. Screening is effected by axially reciprocating the plunger.—A.P.-C.

Hydraulic Vibrator for Pulp Screens. William A. Haliburton. U. S. pat. 1,993,603 (March 5, 1935).—A fluid-operated mechanism is substituted for the cam shaft which is generally used at present.—A.P.-C.

Paper Stock Controlling Method and Apparatus. Erenst Poirier. U. S. pat. 1,990,501 (Feb. 12, 1935).—The stock is passed through a suitable tank or container the inlet and outlet of which are adjustable so as to regulate the resistance offered to the flow of stock into and out of the tank. The level of the stock in the tank rises or falls automatically with changes in the consistence or freeness of the stock, and changes in the level of the stock are used to automatically control the amount of dilution water added.—A.P.-C.

Paper Threading Device for Drum Winders. William J. Battison. U. S. pat. 1,992,114 (Feb. 19, 1935).—Threading of the paper is effected automatically by providing two relatively short, flat, endless belts, one of which passes around an end extension of the cylindrical surface of the winding drum, while the other belt lies over and is pressed in contact with the first belt over a relatively considerable portion of its length.—A.P.-C.

Paper Folding Machine. George Carruthers and Clarence E. Ruddell, assignors to Interlake Tissue Mills Co., Ltd. U. S. pat. 1,985,975 (Jan. 1, 1935).—The invention provides various mechanical features in the construction of a machine for folding sheets of tissue paper that have been cut or perforated, whereby the sheets are separated from a stack one at a time by a vacuum device and are rolled into tubular form and then flattened and folded transversely.—A.P.-C.

Reticulate Drum or Cylinder of Paper Machines. Reginald J. Thomas, assignor to Charles Walmsley and Co., Ltd. U. S. pat. 1,988,402 (Jan. 15, 1935).—The elements supporting the wire-mesh cylindrical surface are made with a pear or streamline section.—A.P.-C.

Method and Device for the Manufacture of Paper. Ivar Wallquist. U. S. pat. 1,989,435 (Jan. 29, 1935).—Fluid jets are directed against the stock on the fourdrinier wire while it is still in fluent condition, in a direction such that currents are set up in the stock substantially perpendicular to the direction of travel of the wire.—A.P.-C.

Paper Making Machine. Herman L. Kutter, assignor to The Black-Clawson Co. U. S. pat. 1,988,247 (Jan. 15, 1935).—The invention provides a light weight construction of the fourdrinier part, in which all box type girders are eliminated. The table is built in a number of relatively small, light sections, some of which are laterally removable. One of the sections is constructed so that it can be shaken laterally at high speed and (or) amplitude, and so as to be easily disassembled for changing the wire. No apron is used, and the rate of discharge of the stock through the slice is controlled by forming a throttling pathway of relatively limited extent below the wire at the breast roll.—A.P.-C.

Roll for Paper Machines. Wiley C. Smith. U. S. pat. 1,990,102 (Feb. 5, 1935).—The surface of a suction roll or of a cylinder mold is made of a porous medium formed of bonded granular material such as carborundum or alundum. Where greater strength is desired than is possessed by the bonded material alone, the surface may be backed by a perforated metal shell.—A.P.-C.

Rolling Fourdrinier Wires. Malcolm J. Mackay and John D. Watson. U. S. pat. 1,993,936 (March 12, 1935).—The invention provides a machine for rolling fourdrinier wires to flatten the "knuckles" to a desired extent. The wire cloth is wound around a pair of spaced parallel axles mounted on carriages so that they can be moved back and forth longitudinally. A pair of rolls are mounted transversely of the carriages and between them so that the portion of the fourdrinier wire extending between the axles passes between the rolls. The portion of the wire between the rolls is flattened by rotating the rolls and advancing the carriages synchronously; the rolls are separated, the wire is unwound from one axle and wound on the other a length equal to the working face of the rolls, and the latter are brought together and the portion of wire between them rolled as before; and the sequence of the operations is repeated till the whole fourdrinier wire has been rolled.—A.P.-C.

Press Section for Fourdrinier Paper Machines. Charles L. Ellis, assignor to Downington Manufacturing Co. U. S. pat. 1,991,346 (Feb. 12, 1935).—The patent provides an arrangement permitting the use in the press section of fourdrinier machines, of the extractor press, hitherto applied only to board machines.—A.P.-C.

Paperboard Machine. Lloyd T. Murphy. U. S. pat. 1,992,713 (Feb. 26, 1935).—One or two pairs of squeeze rolls are used between the cylinder molds and the press rolls. One pair of squeeze rolls may be arranged between the series of cylinder molds and the intake end of the bottom felt, while another pair may be used at the intake end of the bottom felt and between it and the presses. The bottom roll of each pair of squeeze rolls is preferably hollow and covered with wire cloth, and the top roll covered with soft material such as rubber.—A.P.-C.

Miscellaneous

German Pulp. E. Schmidt. Chem-Ztg. 59, No. 1:13-14 (Jan. 2, 1935).—A discussion of the possibilities which exist for making the German pulpwood market independent of imports. Experiments are under way for studying the use of beechwood fibers for the manufacture of rayon and of pine according to the sulphite process in the paper industry. As soon as certain technical problems in connection with these woods are solved, Germany will be able to supply her own needs. It cannot be expected, however, that a complete change will take place within a very short time, since other economical factors must be taken into consideration.—C.J.W.

Biological Slime of Paper Mills. N. Montgomery. Svensk Pappers-Tidn. 38, No. 1:7-10, 13-14 (Jan. 15, 1935).—Bacteria, molds and algae have been considered the reason for paper mill slime by different investigators; it seems to vary with the season and mill. The author determined that the slime of the Swedish mill at Hallstavik consisted of three different types of mold fungi of the class Cladiosporum which live apparently in symbiosis with one or more types of bacteria. Pure cultures and slime were introduced into sterilized groundwood and chemical pulp: slime growth developed in both cases, although the pure cultures did not thrive as vigorously as the mixed cultures. Chlorine and chloramine treatment did not prove successful for combating this slime type. The author recommends lining the stuff chests, recovery equipment, etc., with copper sheets and replacing iron with copper pipes for minimizing slime troubles.—C.J.W.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING OCTOBER 12, 1935

CIGARETTE PAPER

Standard Products Corp., Normandie, Havre, 15 cs.; American Tobacco Co., Normandie, Havre, 100 cs.; H. H. Strauss, Normandie, Havre, 138 cs.; Champagne Paper Corp., Normandie, Havre, 66 cs.

WALL PAPER

S. K. Lonegren, Kungsholm, Gothenburg, 12 bxs.; W. H. S. Lloyd & Co., American Merchant, London, 2 bls., 2 cs.; American Express Co., Nankai Maru, Taku Bar, 1 cs.

PAPER HANGINGS

Titan Shipping Co., American Merchant, London, 1 ble.

NEWSPRINT

Parsons & Whittemore, Inc., Kungsholm, Gothenburg, 258 rolls; Lunham & Reeve, Inc., Scanstates, Kotka, 331 rolls; Jay Madden Corp., Scanstates, Kotka, 374 rolls; International Paper Co., Cornerbrook, Dalhousie, 3,832 rolls; Perkins Goodwin & Co., A. Ballin, Hamburg, 372 rolls; Jay Madden Corp., A. Ballin, Bremen, 133 rolls; Jay Madden Corp., Scanpenn, Kotka, 638 rolls.

PRINTING PAPER

E. Dietzgen & Co., Estrella, Marseilles, 12 cs.; International F'd'g. Co., Pennland, Antwerp, 6 cs.; Phoenix Shipping Co., A. Ballin, Hamburg, 4 cs.

WRAPPING PAPER

S. S. Kresge, McKeesport, Havre, 3 cs.; Nano Paper Corp., Kungsholm, Gothenburg, 159 rolls; Guaranty Trust Co., Kungsholm, Gothenburg, 20 rolls; ———, Berengaria, Southampton, 2 bls.; Steiner Paper Corp., Veendam, Rotterdam, 2 bls.; Steiner Paper Corp. A. Ballin, Hamburg, 46 cs.

FILTER PULP

Gerhard & Hey, Veendam, Rotterdam, 44 pkgs.

FILTER PAPER

H. Reeve Angel & Co. Inc., American Merchant, London, 3 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., American Merchant, London, 1 cs.

SURFACE COATED PAPER

P. Puttman, Pennland, Antwerp, 17 cs.; Gevaert Co. of America, Pennland, Antwerp, 36 cs.; C. Happel, A. Ballin, Hamburg, 21 cs.; ———, A. Ballin, Hamburg, 3 cs.; Hensel Bruckman & Lorbacher, A. Ballin, Bremen, 5 cs.

BASIC PAPER

Globe Shipping Co., A. Ballin, Bremen, 10 cs.; P. Puttman, Pennland, Antwerp, 5 cs.

BARYTA COATED PAPER

Globe Shipping Co., A. Ballin, Bremen, 31 cs.

METAL PAPER

K. Pauli Co., A. Ballin, Hamburg, 8 cs.; K. Pauli Co., A. Ballin, Bremen, 31 cs.

PHOTO PAPER

American Express Co., A. Ballin, Hamburg, 93 cs.

TISSUE PAPER

Standard Products Corp., American Merchant, London, 9 cs.; F. C. Strype, American Shipper, Liverpool, 2 cs.; ———, Laconia, Liverpool, 2 cs.; B. F. Drakenfeld & Co., Laconia, Liverpool, 15 cs.; Van Oppen & Co., Pr. Harrison, Marseilles, 4 cs.; W. J. Byrnes, Berengaria, Southampton, 1 cs.

COLORED PAPER

J. W. Hampton Jr. & Co., Pennland, Antwerp, 1 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 19 cs. (duplex).

DECALCOMANIAS

Sellers Transportation Co., A. Ballin, Hamburg, 5 cs.

PASTE BOARD

———, A. Ballin, Hamburg, 106 cs.

PAPER SPOOLS

———, A. Ballin, Hamburg, 64 pkgs.

MISCELLANEOUS PAPER

National Pulp & Paper Co. Inc., Kungsholm, Gothenburg, 535 bdls., 17 bls., 3,134 rolls; The Borregaard Co. Inc., Kungsholm, Gothenburg, 1,603 rolls, 62 bls.; F. L. Kramer & Co., Kungsholm, Gothenburg, 100 rolls, 119 bls.; Almo Trading Co., Normandie, Havre, 12 cs.; ———, Pr. Harrison, Genoa, 9 cs.; Japan Paper Co., Nankai Maru, Kobe, 4 cs.; ———, Nankai Maru, Kobe, 10 cs.; Keuffel & Esser Co., A. Ballin, Hamburg, 59 rolls, 62 cs.; American Express Co., A. Ballin, Hamburg, 2 cs.

RAGS, BAGGING, ETC.

Banco Coml. Italiane Trust Co., H. Jaspar, Antwerp, 138 bls. bagging; E. J. Keller Co. Inc., H. Jaspar, ———, 161 bls. bagging; Castle & Overton, Inc., McKeesport, Havre, 67 bls. rags; Van Oppen & Co., McKeesport, Havre, 56 bls rags; G. W. Millar & Co., McKeesport, Havre, 130 bls. rags; J. Flannery, Inc., McKeesport, Havre, 102 bls. rags; E. J. Keller Co. Inc., McKeesport, ———, 613 bls. rags; G. W. Millar & Co., McKeesport, Dunkirk, 81 bls. bagging; G. W. Millar & Co., McKeesport, Dunkirk, 149 bls. dark cottons; Castle & Overton, Inc., McKeesport, Dunkirk, 29 bls. rags; Chase National Bank, G. Maersk, Kobe, 50 bls. rags; Globe Sanitary Products

Corp., G. Maersk, Kobe, 70 bls. rags; D. Galloway, G. Maersk, Kobe, 25 bls. rags; Empire Sanitary Products Co., G. Maersk, Kobe, 35 bls. rags; Darmstadt Scott & Courtney, Isarco, Genoa, 67 bls. rags; J. Cohen Son, American Merchant, London, 22 bls. paper stock; Bank of N. Y. Trust Co., Motomar, Barcelona, 80 bls. rags; Continental Bank Trust Co., Motomar, Barcelona, 100 bls. fustians; E. J. Keller Co. Inc., Motomar, ———, 378 bls. rags; O'Brien Padawer Inc., Wales Maru, Shanghai, 300 bls. cotton waste; ———, Wales Maru, Kobe, 350 bls. cotton waste; Mitsui & Co. Ltd., Wales Maru, Kobe, 75 bls. rags; ———, American Shipper, Liverpool, 15 bls. waste paper; ———, Exermont, Barcelona, 334 bls. rags; Bank of N. Y. Trust Co., Exermont, Barcelona, 136 bls. dark cottons; ———, Exermont, Barcelona, 151 bls. rags; E. J. Keller & Co. Inc., Exermont, ———, 247 bls. rags; ———, Laconia, Liverpool, 120 bls. rags; Loumar Textile By-Products Co., Veendam, Rotterdam, 146 bls. bagging; Banco Coml. Italiane Trust Co., Veendam, Rotterdam, 10 bls. bagging; E. J. Keller Co. Inc., Veendam, ———, 128 bls. rags.

HIDE GLUE

———, A. Ballin, Hamburg, 312 bags.

OLD ROPE

E. J. Keller Co. Inc., American Merchant, ——— 106 coils; W. Steck & Co., Veendam, Rotterdam, 103 coils.

CHINA CLAY

Whitaker Clark & Daniels, Laconia, Liverpool, 200 bags.

WOOD PULP

Lagerloef Trading Co., Scanstates, Kotka, 1,367 bls. sulphate, 262 tons; Lagerloef Trading Co., Scanstates, Kotka, 2,600 bls. sulphite, 530 tons; Castle & Overton, Inc., A. Ballin, Hamburg, 390 bls. wood pulp, 78 tons; Bank of N. Y. Trust Co., A. Ballin, Hamburg, 120 bls. wood pulp, 24 tons; M. Sone, Scanpenn, Helsingfors, 300 bls. mechanical pulp, 50 tons; Lagerloef Trading Co., Scanpenn, Helsingfors, 130 bls. mechanical pulp, 26 tons; Lagerloef Trading Co., Scanpenn, Kotka, 104 bls. mechanical pulp, 20 tons.

WOOD PULP BOARDS

Jay Madden Corp., Scanstates, Kotka, 346 bls.; Jay Madden Corp., Scanpenn, Kotka, 34 bls.; Jay Madden Corp., Scanpenn, Wiborg, 124 bls.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 12, 1935

Bulkley Dunton & Co., Capulin, ———, 150 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 12, 1935

Beacon Wiper Supply Co., Wales Maru, Kobe, 17 bls. rags; ———, Wales Maru, Kobe, 150 bls. cotton waste; J. Cohen Son, Laconia, Liverpool, 8 bls. rags; G. F. Malcolm, Inc., Laconia, Liverpool, 6 cs. tissue paper; Bulkley Dunton & Co., Capulin, ———, 100 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING OCTOBER 12, 1935

Castle & Overton, Inc., Scanpenn, Wiborg, 3,422 bls. wood pulp, 684 tons.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 12, 1935

Castle & Overton, Inc., McKeesport, Havre, 858 bls. rags; Banco Coml. Italiane Trust Co., McKeesport, Havre, 56 bls. rags; National Vulcanized Fibre Co., McKeesport, Havre, 263 bls. rags; E. J. Keller Co. Inc., McKeesport, ———, 428 bls. rags; Castle & Overton, Inc., McKeesport, Dunkirk, 254 bls. rags; National Vulcanized Fibre Co., McKeesport, Dunkirk, 62 bls. rags; F. L. Smidth Co., Scanstates, Copenhagen, 157 bls. paper bags; Lagerloef Trading Co., Scanstates, Kotka, 167 bls. wood pulp boards, 25 tons; Jay Madden Corp., Scanstates Kotka, 91 bls. wood pulp boards, 13 tons; Wilkinson Bros. Inc., Scanstates, Kotka, 68 rolls newsprint; J. W. Hampton, Jr. Co., Scanstates, Kotka, 155 rolls newsprint; ———, Wales Maru, Kobe, 200 bls. cotton waste; Darmstadt Scott & Courtney, Wales Maru, Kobe, 13 bls. cotton waste; J. M. Hagy Waste Works, Wales Maru, Kobe, 198 bls. rags; Integrity Mill Ends Co., Wales Maru, Kobe, 25 bls. rags; E. J. Keller Co. Inc., Exermont, ———, 296 bls. rags; Castle & Overton, Inc., Exermont, Marseilles, 162 bls. rags; B. L. Soberski, Toronto, Greaker, 2,250 bags wood flour; Lagerloef Trading Co., Scanpenn, Helsingfors, 130 bls. mechanical pulp, 26 tons; J. W. Hampton Jr. and Co., Scanpenn, Kotka, 313 rolls newsprint; Lagerloef Trading Co., Scanpenn, Kotka, 729 bls. pulp boards, 82 tons; A. Johnson & Co., Scanpenn, Copenhagen, 170 bls. wrapping paper; Gottesman & Co. Inc., Cliffwood Czecho-Slovakia, 1,620 bls. wood pulp; Gottesman & Co. Inc., Cliffwood, Sweden, 2,350 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 12, 1935

Congoleum Nairn Co., Exermont, Marseilles, 607 bls. rags; Gottesman & Co. Inc., City of Havre, Czecho-Slovakia, 80 bls. wood pulp; Gottesman & Co. Inc., Korsholm, Sweden, 2,000 bls. wood pulp.

TAMPA IMPORTS

WEEK ENDING OCTOBER 12, 1935

Tampa Paper Co., Scanstates, Kotka, 18 rolls newsprint; Tampa Paper Co., Scanpenn, Kotka, 50 rolls newsprint.

Japanese Paper Mills Install Machines

Among new construction and extensions planned by the Japanese paper mills are four new Fourdrinier machines, two of which will go into operation in October, one in November, and one in February, according to reports from Trade Commissioner Paul Stenintorf, Tokyo. Two of these machines will be devoted to the manufacture of medium grade printing and writing papers, and one to kraft paper. In addition to these, a fifth machine will go into the manufacture of newsprint in October. The Nihon Rayon Pulp Company, which started operations June 1 with an initial capacity of 30,000 metric tons of high grade bleached sulphite, is expected to double its present capacity producing kraft as well as sulphite pulp. An order has also been placed by the Government Printing Bureau for one 74 inch Fourdrinier to manufacture high grade, thin, printing paper. This machine is expected to get into operation in December.

Swedish Newsprint Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1935—Newsprint production in Sweden during July is reported at 24,463 tons, an increase of 7,240 tons compared with June and of 1,718 tons compared with the corresponding month in 1934. These figures taken from reports from Acting Commercial Attache Osborn S. Watson, Stockholm. Newsprint exports from Sweden, according to official statistics, amounted to 6,097 tons as against 7,481 tons during July 1934.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 16, 1935.

Sentiment in the local paper market is optimistic. Demand for the various standard grades of paper is brisk. Sales forces of the leading paper organizations are booking numerous orders for future delivery, indicating sustained activity for the rest of the year, at least.

The sensation of the week was the announcement of the Great Northern Paper Company of an increase of $1 per ton in the price of newsprint for 1936. Manufacturers were anticipating an increase of $2.50 per ton to meet rising costs of production and disappointment is freely expressed at this action, which, it is feared, may set the market.

Business in the fine paper market is excellent. Demand for book, cover, writing and ledger papers is holding up well. Prices are steady to firm. Tissues are moving in good volume. The coarse paper market is exhibiting a strong undertone. Demand for paper board is fairly active. Prices are holding to schedule.

Mechanical Pulp

The ground wood pulp market is only moderately active. Manufacturing operations in the United States, Canada and abroad are still keyed to consumption and accumulations at the mills are not unduly excessive. The movement of mechanical pulp into consumption is fairly regular. Prices are holding to formerly quoted levels.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Kraft pulp continues to exhibit a very strong undertone. Bleached and unbleached sulphite continue firm. Supplies are moving to the paper mills in good volume. The price situation is strong and there is little talk of concessions around.

Old Rope and Bagging

The old rope market continues quiet. Demand for domestic and foreign old manila rope is restricted. Small mixed rope is only moving slowly. Old rope quotations remain unchanged. The bagging market is buoyant. Both scrap and gunny bagging are in good request. Roofing bagging is seasonally active.

Rags

Paper mill demand for cotton rags is fairly lively. New cotton rags are attracting their share of interest. No. 1 white shirt cuttings are very strong, while other grades are steady to firm. The imported rag marget is dull at present and prices are nominal.

Waste Paper

The paper stock market is rather spotty. Board mill demand for the lower grades of waste paper is light. No. 1 white shirt cuttings and strictly folded news are easier. The higher grades of waste paper are steady to firm and no great changes are indicated, for the present time.

Twine

Recently advanced prices on several varieties of twine are holding. The prevailing demand is very satisfactory and trading should continue lively until the end of the year, and probably well into the new year.

Langston Decree Affirmed

In the case of F. X. Hooper Company, Inc., appellant, vs. Samuel M. Langston Company, appellee, in the United States Circuit Court, Fourth District, Circuit Judge Northcott has handed down the following opinion:

"This is an appeal from an interlocutory decree fixing liability for a patent infringement, entered in the District Court of the United States for the District of Maryland. The appellee brought this suit against the appellant asking relief for alleged infringement of two patents relating to improvements on machines known as "printer-slotters," asking an injunction and damages. Answer was filed and after a hearing, at which evidence was taken, the judge below entered a decree granting the injunction prayed for and referred the case to a special master to ascertain, take and report to the Court, an account of the damages due the appellee.

"The judge below made a full, complete, and explicit findings of fact and handed down a written opinion, (Samuel M. Langston Company vs. F. X. Hooper Company, Inc., 8 Fed. Supp. 613).

"A study of the record convinces us that the findings of fact made by the judge below were correct and were based upon substantial evidence and that, in the able opinion filed, the proper conclusion as to the application of the law to the facts was reached. The opinion of the judge below is accordingly adopted as the opinion of this Court and the decree appealed from is affirmed."

Swedish Sulphite Market Steady

Sales of sulphite pulp in Sweden are proceeding steadily, according to a report to the Department of Commerce from Acting Commercial Attache Osborne S. Watson, at Stockholm.

The binding on the free list in the United States of strong sulphite has exerted a steadying influence on the outlook for this grade, the report states, and producers will be in a better position to calculate their future production with this question settled.

Sales of sulphate pulp picked up considerably during April and 8 per cent of the calculated output for this year was sold by the end of the month. Practically all of this year's output has now been disposed of. At the meeting of the Sulphite Pulp Suppliers at the end of June resolutions were adopted to rearrange the method of cooperation between members. No details of the plan have been made public as yet. Although mills belonging to the association are believed to have kept their production down in accordance with the agreed percentages, new construction has tended to force up total production.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 16, 1935.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. Shipments against contract are moving in good volume. Prices are generally well maintained. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CAUSTIC SODA.—No radical changes transpired in the caustic soda market. The contract movement is normal. Solid caustic soda is still quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, at works.

CASEIN.—The casein market is firm. Domestic standard ground is quoted at 12¼ and finely ground at 12¾; French standard ground at 12½ and finely ground at 13; Argentine standard ground at 13 and finely ground at 13½ cents per pound, all in bags, car lot quantities.

CHINA CLAY.—Conditions in the china clay market are satisfactory. The contract movement is regular. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at mine.

CHLORINE.—The chlorine market is displaying strength. Prices are holding to formerly quoted levels, without difficulty. Chlorine is selling at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is fairly strong. Paper making gum rosin is now quoted at $4.75 and wood rosin at $4.40 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at 2.67½ per 100 pounds, in tank cars, at works.

SALT CAKE.—Paper mill demand for salt cake is well sustained. Prices are holding to schedule. Salt cake is quoted at from $12 to $13; and chrome salt cake at from $11 to $12 per ton, at works. Imported salt cake is selling at from $12 to $13 per ton, ship side.

SODA ASH.—The soda ash market continues to exhibit a strong undertone. Demand from the paper mills is insistent. Quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—Trading in the starch market is mainly along routine lines. The contract movement is average. Prices remain unchanged. Special paper marking starch is quoted at $3.59 per 100 pounds, bags; and at $3.86 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is fairly active. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Business in the talk market is considered satisfactory for the season. Prices are holding to schedule. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Northern	4.12½	@	4.75
Standard	4.00	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	32.50	@	35.00
Chip	32.50	@	35.00
Sgl. Mla. Ll. Chip	45.00	@	47.50
Jute Lined Chip	45.00	@	47.50
White Patent Coated	55.00	@	57.50
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00
(F. o. b. Mill)			
No. 1 Domestic and Canadian	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.60	@	—*
Division 2	2.55	@	—*
Division 3	2.50	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.05	@	—*
Other Than Easy Bleaching—			
Class 2. Higher than Standard	2.00	@	—*
Class 3. Standard	1.95	@	—*
Class 4. Lower than Standard	1.90	@	—*
(On Dock, Atlantic Ports)			
Kraft No. 1	1.75	@	1.80
Kraft No. 2	1.60	@	1.70
(F. o. b. Pulp Mill)			
Kraft Domestic	1.75	@	1.80
(Delivered)			
Soda Bleached	2.50	@	—

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.25	@	6.50
Silesias No. 1	4.50	@	4.75
New Unbleached	7.00	@	7.50
New Soft Blacks	3.00	@	3.25
Blue Overall	4.25	@	4.50
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.55	@	1.60
No. 2	1.35	@	1.40
No. 3	.95	@	1.00
No. 4	.95	@	1.00
No. 5A	.90	@	1.00

Foreign Rags

New Rags

New Dark Cuttings	1.75	@	1.85
New Mixed Cuttings	1.80	@	1.90
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.95	@	2.05
Dark Cottons	1.50	@	1.60
Old Shopperies	1.00	@	1.05
New Shopperies	.95	@	1.05
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.70	@	1.80
Domestic	1.50	@	1.60
Wool Tares, light	1.65	@	1.70
Wool Tares, heavy	1.75	@	1.80
Bright Bagging	1.65	@	1.70
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.45	@	2.55
Ordinary Hard White No. 1	2.10	@	2.15
Hard White No. 2	1.90	@	2.00
Soft White No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag	.65	@	.75
Solid Flat Book	.55	@	.60
Crumpled No. 1	.35	@	.40
Solid Book Ledger	1.50	@	1.65
Ledger Stock	.75	@	.80
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.30	@	1.35
Strictly Overissue	.60	@	.65
Strictly Folded	.32½	@	.35
No. 1 Mixed Paper	.25	@	.27½

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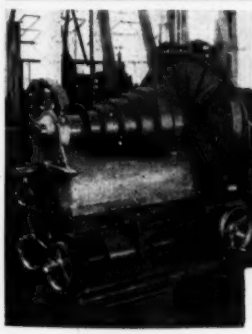

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Twines
(F. o. b. Mill)

Coarse Polished—			
India	.12¼	@	.14¾
Belg. White Hemp	.13¼	@	.16¾
India Compress	.12¾	@	.13¾
Fine Polished—			
Fine India	.20½	@	.22½
Special	.18½	@	.20½
Unpolished—			
Box	.11	@	.11½
Paper Makers	.08	@	.13
Tube Rope	.09	@	.14½
Wall Paper	.10	@	.13½
Wrapping	.13½	@	.19½
Special	.13½	@	.14
Soft Fiber Rope	.11¼	@	.11¾

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¾	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	48.50
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.30	@	.35
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06-9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.12
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05½	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.75	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.40	@	1.75
Best Tarred, 3 ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.03½	@	.04
New White, No. 2.	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft.	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O. D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed.	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.25	@	2.30
No. 2 Hard White.	1.90	@	2.00
No. 1 Soft White.	1.80	@	1.85
No. 2 Soft White.	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.00	@	1.10
No. 1 Books, heavy	.55	@	.60
No. 1 New Manila	1.50	@	—
Print Manila	.50	@	.60
Container Manila	—	@	.50
Old Kraft	1.00	@	—
No. 1 Mixed Paper.	—	@	.30
Straw Board Chip	.40	@	—
Binders Board Chip.	.40	@	—
Corrugated Board	.55	@	—
Overissue News	.60	@	—
Old Newspapers	.40	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¾	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.04½	@	.04¾

(F. o. b. Boston)

Southern Kraft	.03½	@	.04¾

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print Rolls	39.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@40.00	
Filled News Board	40.00	@45.00	
Chip Board	37.50	@40.00	
Chip Board (Creasing)	37.50	@40.00	
Single Manila Lined Chip	47.50	@52.50	
Single White, Patent Coated News Board (Bender)	55.00	@65.00	
Wood Pulp Board	70.00	@75.00	
Binder Boards (Standard Grade)	67.00	@75.00	

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.00	@	2.20
No. 1 Soft White.	1.75	@	1.90
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.30	@	1.40
No. 1 Old Manila	.60	@	.65
White Blank News	1.25	@	1.30
No. 1 Kraft	1.10	@	—
Mixed Papers	.22½	@	.25
Print Manila	.50	@	.60
Container Manilas	.27½	@	—
Old Newspapers	.27½	@	.30
Overissue News	—	@	.35
Box Board Chips	—	@	.25
Corrugated Boxes	.35	@	.37½
Screening Wrappers	.40	@	.45

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	2.00	@	—
Domestic	2.00	@	—
Transmission Rope	.90	@	1.00
Jute Rope	1.50	@	1.60
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.85	@	1.90
Domestic	1.50	@	—
Bleachery Burlap	4.00	@	4.50
Scrap Burlap—			
Foreign	1.85	@	1.90
Domestic	1.60	@	—
Scrap Sisal	1.30	@	1.35
Scrap Sisal for Shredding	1.35	@	1.50
Wool Tares, heavy	1.75	@	1.85
New Burlap Cuttings	1.75	@	1.90
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	1.75	@	2.00
Paper Mill Bagging	1.25	@	—
Bagging No. 2	.90	@	.95

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.01¾	@	.02
New White No. 1.	.06	@	.06¼
New White No. 2.	.04	@	.04¼
Silesias No. 1	.04½	@	—
New Black Silesias	.02½	@	.03
Soft Unbleached	.06½	@	.06¼
Blue Cheviot	—	@	4.65
Fancy	.0195	@	.021
Washable	.0165	@	.0170
Cottons—According to grades—			
Blue Overalls	.04½	@	.04¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.03¼	@	.03¾
O. D. Khaki	.03	@	.03¾
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼
Paper Mill Bagging	1.10	@	1.25

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.50	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	1.50	@	1.60
No. 2	1.35	@	1.40
No. 3	1.05	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.55	@	1.60
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.90	@	—
Old Linsey Garments	2.10	@	—
New Silesias	4.75	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers (sulphite)—			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	5.50	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	5.25	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp

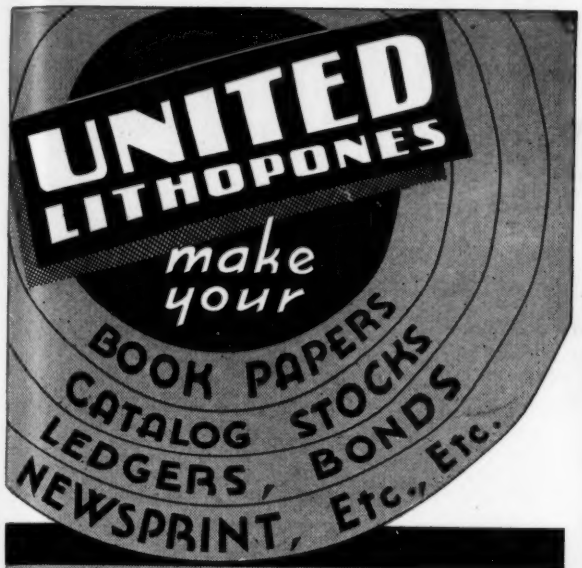
Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock.	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	.60
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.60	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	—
Fancy Shirt Cuttings	.02	@	—



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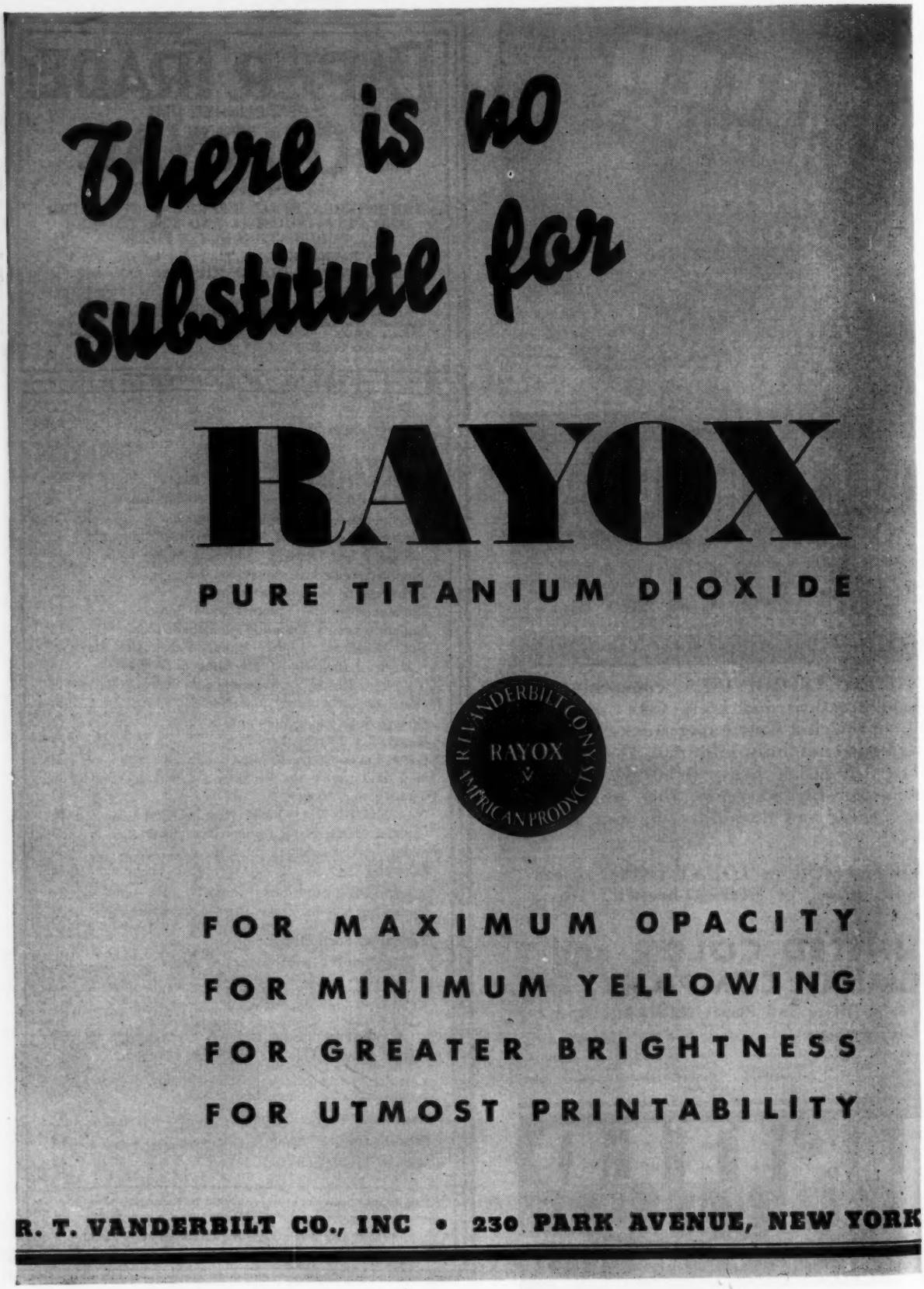
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